SEAWATER DESALINATION PROJECT
SCH# 2001051092

FINDINGS OF FACTS
AND STATEMENT OF OVERRIDING CONSIDERATIONS

1.0 INTRODUCTION

The California Environmental Quality Act ("CEQA") in Public Resources Code Section 21081 provides that:

> "[N]o public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:
>
> (a) The public agency makes one or more of the following findings with respect to each significant effect:
>
> (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
>
> (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
>
> (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.
>
> (b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment."

The City of Huntington Beach (City) has prepared the Subsequent Environmental Impact Report (SEIR) as the lead agency pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) and the state CEQA Guidelines (California Code of Regulations, Section 15000 et seq.) to evaluate the environmental effects of the proposed Seawater Desalination Project at Huntington Beach. The City, as lead agency, determined that changes to the project and circumstances surrounding the project have occurred, and that new information has become available since the City certified the Recirculated Environmental Impact Report (REIR) for the Seawater Desalination Project at Huntington Beach on September 6, 2005 (2005 REIR). The SEIR analyzes the project proposal of Poseidon Resources (Surfside), LLC (Poseidon) to construct and operate an approximately 50-million-gallon-per-day (mgd) Huntington Beach Desalination Facility and other appurtenant and ancillary water and support facilities to produce potable water. Specifically, Poseidon has submitted the following to the City for review and approval:

(1) Entitlement Plan Amendment No. 10-001, which Amends Conditional Use Permit No. 02-04, and Coastal Development Permit No. 02-05, or which would result in issuance of a new Coastal Development Permit.

(2) Tentative Parcel Map No. 10-130

(3) A Franchise Agreement between the City and Poseidon, including plans to obtain approval to construct water conveyance pipelines and appurtenant facilities in the City of Huntington Beach in order to deliver drinking water to the regional distribution system serving residents and businesses in Orange County.

(4) A Tank Site Exchange Agreement and Lease between the City and Poseidon

(5) An Owner Participation Agreement between the Redevelopment Agency of the City of Huntington Beach and Poseidon

The SEIR analyzes all components of the project, including water conveyance facilities located outside Huntington Beach. The City of Huntington Beach does not have permit jurisdiction over project components located outside its boundaries. Agencies other than the City of Huntington Beach will use the SEIR when making a decision on aspects of the project that requires their approval. More information on agencies expected to use the SEIR may be found in Section 2.0, Introduction and Purpose.

The SEIR was circulated for public review and comment as specified in the State CEQA Guidelines. Public comments were received by the City and have been responded to by the City in accordance with CEQA requirements.

The City of Huntington Beach determined that the SEIR, comprised of the SEIR, a list of persons, organizations and public agencies commenting on the SEIR, comments received from the public and interested agencies, the Responses to Comments prepared by the City (including Errata to the SEIR), and all attachments and documents incorporated by reference is complete and adequate, and has been prepared in accordance with CEQA and the State CEQA Guidelines.

The SEIR identified certain significant effects on the environment that may occur if the project is approved or carried out. Therefore, in accordance with CEQA, the City of Huntington Beach adopts this Statement of Findings of Facts and makes one or more of the three Section 21081 findings for each significant impact identified. Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant effects on the environment. However, unavoidable significant impacts related to both direct and cumulative impacts on short-term construction-related air quality emissions would remain as a consequence of the project, despite the incorporation of all feasible mitigation. In addition, for significant effects related to indirect growth outside of the boundaries of Orange County that may occur remain unmitigated.

Where the decision of a public agency allows the occurrence of a significant effect, which is identified in the SEIR but is not avoided, the agency must state in writing the specific reasons to support its action based on the SEIR and other information in the administrative record. Such a statement is called a Statement of Overriding Considerations. In accordance with CEQA, therefore, the City of Huntington Beach adopts the Statement of Overriding Considerations included as Section 7.0 of this Statement of Findings of Facts.

This Statement of Findings of Facts, including the Statement of Overriding Considerations, is adopted by the City of Huntington Beach as part of its action to approve the Seawater Desalination Project at Huntington Beach.

2.0 DESCRIPTION OF PROJECT PROPOSED FOR APPROVAL

Poseidon has submitted an application to the City to amend previously issued land use approvals to construct and operate an approximately 50 mgd Huntington Beach Seawater Desalination Facility (desalination facility) and other appurtenant and ancillary water and support facilities to produce potable water. The proposed desalination plant would have the capacity to deliver approximately 50 mgd of reverse osmosis (RO) permeate (product water). The desalinated water from the desalination plant would be distributed to the City of Huntington Beach and various cities and local water districts as purchasers for use and consumption by homes and businesses in Orange County. The on- and off site components of the desalination plant are discussed in Section 3.0, Project Description within the SEIR.

All components of the desalination plant, including on and off site project elements, are proposed to be sized and built to accommodate and deliver approximately of 50 mgd of product water. The project would include the demolition of three fuel oil storage tanks currently located on the proposed facility site. On site facilities would consist of an administration building, RO facility building, pretreatment filter structure, solids handling building, post-treatment structure, chemical storage structure, product water pump station and surge tank, fluoride tank, flush tank, ammonia tank, influent pump station, a 66-kilovolt (kV) substation and associated connections to existing electrical transmission lines, electrical building, an aboveground product water tank, and appurtenant facilities.

To produce 50 mgd of product water, the seawater desalination facility would require approximately 100 mgd of seawater. The proposed desalination facility would receive source water from the adjacent AES HBGS. The HBGS currently uses a condenser cooling system ("once-through cooling") in its energy production process and is permitted to intake up to 514 mgd of seawater directly from the Pacific Ocean through an existing intake pipeline. HBGS circulates the seawater through the energy-producing plant for cooling purposes. The historical maximum flow rate at HBGS has been 507 mgd. The source water for the proposed seawater desalination facility will be taken from the existing HBGS condenser cooling-seawater discharge pipeline system after the water has been used by HBGS for cooling. However, if in the future the HBGS were to cease the use of once-through cooling, or if the HBGS were to permanently alter its cooling water system's historical operations, the proposed seawater desalination facility would intake water directly from the Pacific Ocean via the existing HBGS intake pipe. In either case, and in order to protect the marine environment, 50 mgd of concentrated seawater would reenter the Pacific Ocean via the existing HBGS discharge pipe after blending with additional intake water to be used for dilution.

The desalination facility would use state-of-the-art seawater RO membranes, which are capable of removing practically all contaminants in the source water: turbidity, taste, odor, color, bacteria, viruses, salts, proteins, asbestos, organics, etc. With pores ranging from 0.00005 to 0.0000002 microns (for comparison, typical human hair size is 200 microns) the RO membranes would retain and remove over 99.5% of the seawater salinity; over 99 %of the metals and organics, 99.999% of the bacteria and other pathogens (*Giardia* and *Cryptosporidium*), and

99.9% of the viruses in the source water. Therefore, the desalination facility would produce drinking water of very high and consistent quality, which meets or exceeds all applicable regulatory requirements established by the U.S. Environmental Protection Agency and the California Department of Public Health. The RO desalination technology is described in Section 3.0.

A more detailed project description is provided in Section 3.0, *PROJECT DESCRIPTION* of the SEIR.

3.0 FINDINGS CONCERNING IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

In evaluating the potential impacts associated with the project, the SEIR identified potential impacts that would not be significant. This section of the Statement of Findings of Facts identifies those impacts that may occur with project implementation, but were found to be below the threshold of significance. CEQA does not require findings for impacts that are found to be less than significant, and therefore do not require mitigation. Nevertheless, the following information is provided in order to summarize the basis for determinations of non-significance for the potential impacts as presented in the Section 4.0, *ENVIRONMENTAL ANALYSIS,* in the SEIR.

In some cases, the impacts addressed in this Statement of Findings of Facts are found not to be significant due to their nature. In other cases, the determinations take into account certain design features of the project. Although impacts determined to be not significant do not themselves require mitigation, in some cases mitigation measures that have been required to address other impacts found to be potentially significant and in need of mitigation will also further reduce the non-significant impacts. In these cases, the mitigation measures are noted, although the impacts would be less than significant even without such measures. Mitigation measures are referenced in this Statement of Findings of Facts using the same numbering system employed in the Mitigation Monitoring Program and the SEIR.

A. IMPACTS RELATED TO LAND USE/RELEVANT PLANNING *(SEIR page 4.1-1 to 4.1-32)*

Section 4.1 of the SEIR addresses the potential impacts related to land use/relevant planning. Both topics (land use and relevant planning) are addressed in this Section of the Statement of Findings of Facts.

Finding for Potential Land Use Impacts

The Seawater Desalination Project at Huntington Beach will not create any significant impacts to surrounding land uses. Less than significant impact. In addition, mitigation measures are discussed within other SEIR sections, including Sections 4.4 (Air Quality), 4.5 (Noise), 4.7 (Aesthetics/Light and Glare), 4.8 (Hazards and Hazardous Materials), and 4.9 (Construction-Related Impacts) that further illustrate this less than significant finding.

Facts in Support of Finding

Based on the analysis presented in Section 4.1 of the SEIR, land use impacts are less than significant without mitigation. With implementation of standard construction measures and

recommended mitigation measures throughout the SEIR, there are no anticipated significant land use impacts associated with short-term construction/remediation activities or long-term facility operation. The proposed pipeline alignment and underground pump station are adjacent to a variety of land uses, including residential, open space, commercial, educational, medical, and recreational. However, the pipelines and underground pump stations would be subsurface and are not anticipated to result in any long-term land use impacts. These issues are discussed within other SEIR sections, including Sections 4.4 (Air Quality), 4.5 (Noise), 4.7 (Aesthetics/Light and Glare), 4.8 (Hazards and Hazardous Materials), and 4.9 (Construction-Related Impacts).

Finding for Potential Relevant Planning Impacts

The Seawater Desalination Project at Huntington Beach will not conflict with applicable relevant planning programs. No impact.

Facts in Support of Finding

Based on the analysis presented in Section 4.1 of the SEIR, relevant planning impacts are not significant. The project as described in Section 2.0 of this Statement of Findings of Facts will be consistent with the City of Huntington Beach General Plan, Local Coastal Program, Zoning and Subdivision Ordinance, South Coast Air Quality Management Plan, Southeast Coastal Redevelopment Plan, the SCAG Regional Comprehensive Plan and Guide, and applicable sections of the California Coastal Act. No significant impacts to land use/relevant planning were identified; therefore, no mitigation measures are required.

B. IMPACTS RELATED TO GEOLOGY, SOILS, & SEISMICITY *(SEIR pages 4.2-1 to 4.2-16)*

Section 4.2 of the SEIR addresses the project's potential impacts related to geology, soils and seismicity. Topics relating to landslides and off site pipelines and underground pump stations are addressed in this Section. The remaining topics are addressed in Section 4.0-B of this Statement of Findings of Facts.

Finding for Landslides

The Seawater Desalination Project at Huntington Beach will have no significant impact due to landslides on the project area. Less than significant impact.

Facts in Support of Finding

Based on the analysis presented in Section 4.2 of the SEIR, impacts related to the potential for landslides are less than significant without mitigation. Potential landslide areas within the City are limited primarily to the mesa bluffs region. However, the potential for seismically induced landslides along the levee of the neighboring Huntington Beach Channel is considered moderate to high. As stated previously, the sheet-pile walls constructed along the interior walls of the levee are not designed to withstand potentially large, lateral forces associated with strong ground motion from a nearby earthquake. Therefore, earthquake-induced slope instability should be considered part of the geotechnical evaluation for the project. The exterior berms that surround the site and that would remain in place would undergo slope stability analysis. With proper consideration of slope stability in the geotechnical evaluation and potential stability measures resulting, as applicable, impacts would be less than significant.

Finding for Off Site Pipelines and Underground Pump Stations

The Seawater Desalination Project at Huntington Beach off site pipelines and underground pump stations will not result in significant impacts related to geology, soils and seismicity. Less than significant impact. In addition, applicable mitigation measures contained within Section 4.9 of the SEIR, inclusive, further reduce these less than significant impacts.

Facts in Support of Finding

Based on the analysis presented in Section 4.2 of the SEIR, impacts to off site pipelines and underground pump stations will not result in significant impacts related to geology, soils and seismicity. The proposed product water delivery pipelines are not anticipated to result in significant impacts in regard to geology and soils, because the majority of the alignment would occur within existing street ROW and various utility lines that currently exist along the alignment. Pipeline construction would be subject to standard erosion control measures similar to those implemented for the desalination facility site to contain any potential wind and water erosion on site. Because the pipeline alignments being considered are relatively flat and have been graded, impacts to natural topography are not anticipated. A design-level geotechnical investigation would be performed for the selected pipeline alignment to examine the potential for earthquake shaking hazards, surface rupture, shallow groundwater, and unstable soils (liquefaction, subsidence, lateral spread). Should the potential for such geological hazards exist, adequate mitigation for both pipeline construction and pipeline design would be incorporated to mitigate impacts in this regard to a less than significant level. Also refer to Section 4.9, Construction-Related Impacts, of this SEIR for a more detailed evaluation of pipeline construction.

Construction of the proposed pump stations would also be subject to standard erosion control measures as required by local, state, and federal regulations to contain any potential wind and water erosion on site. The sites are relatively flat and limited in area, thus impacts to the natural topography of the site and surrounding vicinity are not anticipated. A design-level, site-specific geotechnical study would be prepared for any underground pump station and would incorporate adequate mitigation measures (if deemed necessary) for geologic hazards such as seismic shaking, surface rupture, shallow groundwater, liquefaction, subsidence, lateral spread, and landslides. Because any underground pump stations would require excavation to a depth of approximately 40 feet, lateral bracing for the sides of the chamber may be necessary because the site is in a designated liquefaction hazard zone (California Geological Survey 2001). Refer to Section 4.9, Construction-Related Impacts, of this SEIR for a more detailed evaluation of pump-station construction.

C. IMPACTS RELATED TO HYDROLOGY, DRAINAGE AND STORMWATER RUNOFF (*SEIR pages 4.3-1 to 4.3-14)*

Section 4.3 of the SEIR addresses the project's potential long-term impacts related to hydrology and water quality. As the proposed off site pipeline alignment and underground pump stations would be subsurface, there are no anticipated long-term impacts in regard to hydrology, drainage, and/or water quality. A discussion of short-term, construction-related impacts in regard to hydrology and water quality is included under Construction-Related Impacts. The remaining topics are addressed in Section 4.0-C of this Statement of Findings of Facts.

Finding for the Alteration to the Existing Drainage Pattern of the Site or Area that could Cause Erosion or Flooding

Alterations to the existing drainage pattern of the site or area would not cause a significant impact by causing erosion or flooding. No significant impact is found.

Facts in Support of Finding

As discussed in Section 4.3 of the SEIR, the project would result in increases in impervious surfaces and modifications to runoff patterns on the site. However, the alterations to drainage would not permanently expose substantial amounts of ground surfaces, would not create slopes or other conditions that would result in long-term erosion of the project site or surrounding areas, nor would it create siltation impacts that would cause substantial flooding risks. Therefore, impacts would be less than significant.

Finding Regarding the Depletion of Groundwater Supplies/Interference with Groundwater Recharge

The *potential for the proposed project to deplete groundwater supplies or interfere with groundwater recharge will not be significant. Less than significant impact.*

Facts in Support of Finding

As explained in Section 4.3 of the SEIR, the project would introduce additional impervious surfaces on the desalination facility site, resulting in an increase in runoff that would be conveyed to a storm drain system. However, due to the relatively small size of the project site (13 acres), changes in runoff patterns would not substantially interfere with groundwater recharge. In addition, due to the location of the project in proximity of the Pacific Ocean and the related effects of seawater intrusion, the project site does not contribute substantially to groundwater resources within the area. Therefore, impacts would be less than significant.

D. IMPACTS RELATED TO AIR QUALITY *(SEIR pages 4.4-1 to 4.4-23)*

Section 4.4 of the SEIR addresses the potential impacts related to air quality. Long-term air quality impacts are addressed in Section 4.4 and short-term construction impacts are discussed under Section 4.9, Construction Related Impacts. The remaining topics related to air quality are addressed in this Section.

Finding for Mobile Source Emissions

The Seawater Desalination Project at Huntington Beach will not result in significant impacts in regards to mobile source emissions or create a CO Hotspot. Less than significant impact.

Facts in Support of Finding

As shown within Section 4.4, motor vehicles including potential employee and truck delivery trips associated with the project would constitute the primary source of pollutant emissions. It is anticipated that the project would result in an estimated worst-case scenario of 28 worker trips per day, traveling an estimated maximum distance of 10 miles each way, and would be the same for both the co-located and stand-alone operating conditions. In addition, truck deliveries

have been anticipated to generate approximately 4 trips per day. The analysis illustrates the estimated long-term emissions from mobile sources would be well below the SCAQMD thresholds for CO, ROG, NO_x, and PM_{10} and would result in less than significant impacts.

The project is not anticipated to result in air quality impacts from CO hotspots. The project does not generate enough vehicular trips to result in a degradation of the level of service (LOS) of roadways in the site vicinity. Therefore, CO hotspots are not anticipated to result from project operations.

Finding for Electricity Consumption

The proposed project would not result in significant air quality impacts in regards to electricity consumption as part of the proposed project under the co-locating scenario or the stand-alone operating condition. Less than significant impact.

Facts in Support of Finding

As explained in Section 4.4 of the SEIR, the co-located scenario involves the use of 26 pumps and 6 standby pumps, which would be used for seawater intake, reverse osmosis, product water, and membrane cleaning. The proposed project would produce an average annual product water flow of 50 million gallons per day (mgd). The total power use for this plant and pumps along the primary pipeline route is projected to be 28.57 average megawatts (aMW), or 690.25 MW per day. The Longest Pipeline Option would use one less off site pump station than the Primary Pipeline Route. As a result, this alternative would result in 29.68 aMW per hour (high-efficiency design), which is 717.07 MW per day. Emissions from energy consumption would not be considered part of the project's daily emissions because power generation could occur outside of the SCAB and beyond. Additionally, the proposed project would avoid energy usage from transport via the State Water Project and would further reduce energy consumption with project design features that reduce energy requirements (increased energy efficiency, green building design, recovery of CO_2, and potential on site solar generation). Consequently, any impacts are considered less than significant.

The stand-alone scenario involves the use of 27 pumps and 7 standby pumps on site, and 1 to 2 off site pumps. The proposed project would produce an average of 50 mgd. However, under this scenario, the proposed project would assume responsibility for the intake of seawater through HBGS infrastructure. The total power use for this facility is projected to be 30.34 aMW (high-efficiency design), or 733.01 MW per day. The Longest Pipeline Option would use one less off site pump station than the Primary Pipeline Route. As a result, this alternative would result in 31.49 aMW per hour (high-efficiency design), which is 760.07 MW per day. The proposed project operating in the stand-alone condition would avoid energy usage from transport via the State Water Project and would further reduce energy consumption with project design features that reduce energy requirements (increased energy efficiency, green building design, recovery of CO_2, and potential on site solar generation). Consequently, any impacts are considered less than significant.

Finding for Indirect Emissions from a Connection to the State Electrical Grid or the HBGS

The Seawater Desalination Project at Huntington Beach will not create significant emissions due to connecting to the state electrical grid or a direct connection to the HBGS for either the co-located or stand-alone operating condition. Less than significant impact.

Facts in Support of Finding

Emissions associated with the electricity demand of the proposed project are depicted in Section 4.4 of the SEIR. Emissions from power consumption are regulated by SCAQMD's RECLAIM program, California's first air pollution cap-and-trade program, and it encompasses most of the basin's largest NO_X and SO_X stationary sources. RECLAIM requires industries and businesses to cut their emissions by a specific amount each year, resulting in a 70% reduction for NO_X and a 60% reduction for SO_X within the 10-year planning period from the inception of the program. Businesses that beat their reduction targets can trade their credits on the open market. Using market forces allows pollution to be cut in the most economical way. RECLAIM encourages the use of the latest and cleanest technology and the development of more advanced processes. To monitor emissions at larger sources, RECLAIM requires use of continuous emission-monitoring systems to determine actual mass emissions from these sources. These emissions are reported to the AQMD on a daily basis. Under the RECLAIM program, future NO_X and SO_X emissions for the region, including those resulting from project implementation, would be offset through the RECLAIM program, and no significant regional air quality impacts are anticipated.

Emissions from the HBGS associated with the electricity are also shown in Section 4.4. As discussed in the SEIR, power would be supplied to the proposed project from either the HBGS or the existing power grid, and no new power plant or other industrial emissions sources would be constructed. If the power supply came directly from the HBGS, emissions would be below applicable emission thresholds and impacts would be less than significant.

Finding for Chemical Storage Facilities

The Seawater Desalination Project at Huntington Beach will not result in a significant air quality impact due to on site chemical storage facilities.. Less than significant impact.

Facts in Support of Finding

As explained in Section 4.4 of the SEIR, various chemicals typically associated with desalination facilities would be stored on site. These chemicals are food-grade purity compounds typically used in most conventional water treatment facilities. The seawater desalination facility would use the same type and grade of chemicals as any other conventional surface water treatment facility. However, the seawater desalination facility would use fewer chemicals of lower dosages than existing conventional water treatment facilities in Southern California. Chemical storage and the use of chemicals during the desalination process are not anticipated to have significant impacts to air quality in the region. In addition, based on the types of chemicals stored on site and their containment methods, odors are unlikely to emanate from the project site. Furthermore, the project does not involve any odor-generating sources and is not classified as an odor-generating process (SCAQMD 1993); therefore, the project would not create objectionable odors affecting a substantial number of people.

Finding Related to Visibility

The Seawater Desalination Project at Huntington Beach will not create significant impacts related to visibility issues. Less than significant impact.

Facts in Support of Finding

As evaluated in Section 4.1 of the SEIR, A visibility analysis of the project's gaseous emissions is not required under the federal Prevention of Significant Deterioration (PSD) permitting program. Further, considering the minimal amount of emissions generated by the operation of the proposed project, modeling was not required and therefore not conducted. Impacts would be less than significant.

Finding Regarding Off site Pipelines and Underground Pump Stations

The Seawater Desalination Project at Huntington Beach will not create any significant air quality impacts related to off site pipelines or underground pump stations. Less than significant impact.

Facts in Support of Finding

As discussed in Section 4.4 of the SEIR, off site project components would include water transmission pipelines and underground booster pump stations and piping modifications to an existing pump station. All internal combustion engines (ICEs) greater than 50 brake horsepower (bhp) are required to obtain a permit to construct from SCAQMD prior to installation of the engines at the project site. NO_X emissions from diesel-fired emergency engines are 200 to 600 times greater, per unit of electricity produced, than new or controlled existing central power plants fired on natural gas. Diesel-fired engines also produce significantly greater amounts of fine particulates and toxics emissions compared with natural gas-fired equipment. For generators to be considered emergency backup generators by SCAQMD, they cannot operate more than 200 hours per year and can only operate in the event of an emergency power failure or for routine testing and maintenance. Further, SCAQMD has provided a list of models of equipment as meeting all applicable air quality requirements and has issued permits to the dealer/distributor of these engines. The diesel-powered generator anticipated for the project, Caterpillar model 3516C, is included on the approved list provided by the SCAQMD (2007b). Additionally, it would be necessary to apply for a Special Application for Temporary Emergency Authorization to Operate Electric Backup Generator(s) During Involuntary Power Service Interruptions Permit. Therefore, impacts associated with the operation of diesel-powered generators would be less than significant.

Pump stations as well as water transmissions lines would occasionally require maintenance, which would generate worker trips. Maintenance activities would occur at sporadic instances, and therefore, modeling would be neither required nor conducted since trip generation from such activities would not result in any significant air quality impacts. Water transmission lines would not result in criteria pollutant emissions and therefore would not have any significant impacts to air quality.

Finding for Consistency with Regional Plans

The Seawater Desalination Project at Huntington Beach will not conflict with local and regional air quality planning documents. Less than significant impact.

Facts in Support of Finding

As discussed within the SEIR, the proposed project does not involve a General Plan amendment, zone change, or other change in land use, and is consistent with the County of Orange and City of Huntington Beach land use assumptions. The regional Air Quality Management Plan (AQMP) is based on the City and County's General Plan assumptions, and the project is consistent with these assumptions. Since the proposed desalination project is consistent with these General Plan assumptions, the project would be considered consistent

with the AQMP's land use assumptions and goals. In addition, the region is regulated by SCAQMD's RECLAIM program, which controls the amount of NO_x and SO_x emissions through financial incentives and involves the trading of emissions credits. Future NO_x and SO_x emissions for the region, including those resulting from project implementation, would be offset through the RECLAIM program, and no significant regional air quality planning impacts are anticipated.

In addition, according to the Southern California Association of Governments (SCAG), the project is consistent with the Regional Comprehensive Plan (RCP). Impacts in this regard are not anticipated to be significant.

E. IMPACTS RELATED TO NOISE *(SEIR pages 4.5-1 to 4.5-18)*

Section 4.5 of the SEIR addresses the project's long-term potential impacts related to noise. Short-term, construction-related noise impacts are discussed in Section 4.9, Construction-Related Impacts. The SEIR addresses two topics (mobile noise sources and stationary noise sources). Mobile noise sources and stationary noise sources for the off site pipelines and booster pump stations are addressed in this Section. Stationary noise sources for the desalination facility site are addressed in Section 4.0-E of this Statement of Findings of Facts.

Finding for Mobile Noise Sources

The Seawater Desalination Project at Huntington Beach will not generate a significant amount of noise resulting from mobile noise sources. Less than significant impact.

Facts in Support of Finding

As explained in Section 4.5 of the SEIR, the project would generate a nominal amount of noise resulting from mobile sources as a result of employee trips and truck-generated traffic. The proposed desalination facility would employ a total of approximately 18 people, with an average of five to seven people on site per shift on weekdays. It is anticipated that the project would result in an estimated worst-case scenario of 28 round-trip worker trips per day, traveling an estimated maximum distance of 10 miles each way. In addition, facility operation would require a maximum of four truck trips per day for solid waste disposal and chemical delivery. Noise generated by mobile sources as a result of the proposed desalination facility would be less than significant.

Finding for Noise from Long-Term Operations of Off Site Pipelines and Underground Booster Pump Stations

The proposed desalination project would not generate a significant amount of noise resulting from long-term operations off site pipelines and underground booster pump stations.

Facts in Support of Finding

As explained in Section 4.5 of the SEIR, the proposed product water pipelines would occur entirely underground. Upon completion of construction, these pipelines would not generate noise. In addition, as the OC-44 booster pump station would be less than 500 horsepower (hp) and produce noise levels of approximately 88 dBA at 3 feet from the source. As the booster pump would both be located underground and contain an adequate amount of acoustical shielding, operations associated with the pump station will not emit noise levels in excess of County of Orange codes and the off site underground booster pump station is not anticipated to adversely affect the NCCP/HCP area along the eastern border of the City of Newport Beach.

Similarly, the coastal junction booster pump station would both be located underground and contain an adequate amount of acoustical shielding.

The Magnolia and Brookhurst pump stations are located at the intersections of Orangewood Avenue/Magnolia Street and Brookhurst Street/Bixby Avenue in the City of Garden Grove. The pump stations would be constructed within a disturbed right-of-way. The Bristol Pump Station is located in the City of Santa Ana to the north of the Bear Avenue/Segerstrom Avenue intersection within an area that includes recreational uses. Similar to the OC-44 Booster Pump Station and Coastal Junction Pump Station, the pumps would be less than 500 hp and produce noise levels of approximately 88 dBA at 3 feet from the source. Since the proposed facilities would be both located underground and surrounded by concrete walls, it would not emit noise levels in excess of applicable City codes in which the stations are located. All pump stations will be required to meet the local jurisdiction noise ordinance standards. Impacts in this regard are not anticipated to be significant.

The pump station equipment would be designed to produce very low vibration levels because to operate efficiently the equipment needs to be well balanced. Experience with similar facilities demonstrates a negligible possibility for vibration impacts to surrounding land uses. The closest residence from any of the five pump stations would be at least 95 feet away and the resulting vibration level at a distance of 95 feet would be less than 0.001 inches/second. This vibration level is well below the threshold of human perception for vibration and the impact would be less than significant.

F. IMPACTS RELATED TO PUBLIC SERVICES AND UTILITIES *(SEIR pages 4.6-1 to 4.6-18)*

Section 4.6 of the SEIR addresses the project's potential impacts related to public services and utilities. Impacts related to solid waste are addressed in Section 4.0-F of this Statement of Findings of Facts. The remaining topics related to public services and utilities are addressed in this Section.

Finding for Fire Service

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the demand for fire service within the City of Huntington Beach. Less than significant impact.

Facts in Support of Finding

The project would comply with City of Huntington Beach Fire Department requirements, including the installation of fire sprinklers and fire hydrants. It is not anticipated that project implementation would result in the need for additional Fire Department facilities. The proposed project is not of the scope or nature to create a significant increase in demand for services requiring physical additions to the City of Huntington Beach Fire Department. Adequate emergency access would be provided in accordance with City and County requirements. Impacts are not anticipated to be significant.

Finding for Police Service

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the demand for police service within the City of Huntington Beach. No Impact.

Facts in Support of Finding

As discussed in Section 4.6, the proposed project would be within the service area of the Huntington Beach Police Department. The desalination facility will operate almost always 24 hours per day 365 days/year with security and/or employees always on the site monitoring activities. The proposed facility is not anticipated to create a significant increase in service calls to the project vicinity, nor is it expected to create a need for additional police facilities within the City. No impacts are anticipated in this regard.

Finding for Schools

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the City of Huntington Beach school system. Less than significant impact.

Facts in Support of Finding

As discussed within Section 5.6 of the SEIR, the project does not propose housing or other student-generating uses. According to the Huntington Beach Union High School District, the project is anticipated to have negligible impacts on school facilities within the City, and is anticipated to have a student generation rate of .0000340242 per square foot. However, in consideration of AB 2926, the applicant would be required to pay a commercial fee of $0.47 per square foot for non-residential development within the Huntington Beach Union High School District, of which the High School District would receive 39%, or $0.1833 per square foot of the total fee. The Huntington Beach City School District would receive the remaining 61% ($0.2867 per square foot) of the commercial fee, and it does not anticipate that the proposed project would have significant student-generating impacts or require other assessment fees or mitigation measures. The project is not expected to generate the need for additional school facilities. Therefore the payment of these fees at the time of building permit issuance would offset potential impacts to the construction or expansion of new school facilities. No significant impacts are anticipated in this regard.

Finding for Libraries

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the City of Huntington Beach library system. Less than significant impact.

Facts in Support of Finding

The proposed desalination project is not anticipated to have significant impacts on the City of Huntington Beach library system. Although the nearest library facility to the project site (the Banning Branch Library) is small in size, the project is anticipated to have a negligible impact on the branch. The applicant will be required to pay standard library fees as part of the proposed project and impacts are less than significant.

Finding for Roadway Maintenance

The Seawater Desalination Project at Huntington Beach will not have a significant impact on or cause a significant impact due to any roadway maintenance activities. Less than significant impact.

Facts in Support of Finding

As evaluated under Section 4.6, landscaping and street improvements along Edison Avenue and Newland Street, as well as landscaping improvements along the eastern site boundary, are included in the project and will be installed pursuant to Code requirements from the City of Huntington Beach Department of Public Works. The landscaping and street improvements are subject to Design Review Board review and approval and may change based on the Board's review. Along the northern portion of the project site, Edison Avenue would be improved. These improvements would consist of the dedication of 12 feet along the frontage of the existing Edison Avenue (for curb, gutter, paving, turn-about, and street lighting improvements) for a total of approximately 600 linear feet. The project applicant would be responsible for completing the roadway and landscaping improvements along the project's frontage as a condition of approval for the project subsequent to property dedication. Impacts would be less than significant.

Finding for Parks and Recreation

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the demand for parks and recreational facilities within the City of Huntington Beach. Less than significant impact.

Facts in Support of Finding

The recreational facilities nearest the project site are Edison Community Center, Huntington State Beach, and Huntington City Beach, all of which are located within a radius of approximately 0.5 mile. The proposed desalination facility would be situated in an industrial area and would employ approximately 18 people, with 5 to 7 people on duty during regular working hours Monday through Friday, and a minimum of 2 people on duty during swing shifts, graveyard shifts, and weekends. The project is anticipated to have a negligible impact on parks and recreation facilities within the City and will be required to pay development impact fees prior to issuance of grading permits. The project applicant will be required to demonstrate compliance with City parkland requirements identified in Chapter 254.08 (or Ordinance No. 3596) of the City of Huntington Beach Zoning and Subdivision Ordinance. Impacts in this regard will be less than significant.

Finding for Wastewater

The Seawater Desalination Project at Huntington Beach will not have a significant impact due to wastewater. Less than significant impact.

Facts in Support of Finding

See the discussion regarding wastewater under Section 4.6 of the SEIR. Per conditions of approval, new sewer lines will be implemented to provide suitable wastewater services. All appropriate permits will be obtained. The proposed project would only produce nominal amounts of domestic wastewater. However, desalination facility operation would require that used reverse osmosis (RO) membrane cleaning first-rinse solution is discharged into the local sanitary sewer for treatment as well as waste cleaning solution from the RO membranes during any cleaning operations. However, given the volume and relative strength of the cleaning solutions and the requirement of commercial/industrial capital facility fees for this discharge in the sewer system, impacts were determined to be less than significant.

Finding for Stormwater Drainage

The Seawater Desalination Project at Huntington Beach will not have a significant impact related to stormwater drainage facilities. Less than significant impact.

Facts in Support of Finding

An on site stormwater drainage system would be implemented as part of the desalination facility site. The desalination facility area and aboveground product water storage tank area would feature catch basins and stormwater pump stations to provide adequate drainage. Stormwater flows would first be directed to catch basins by gravity, and would then be directed to a stormwater pump via gravity lines. Stormwater shall be tested for pollutants and treated using one of two sedimentation methods. The water would then be pumped to the 72-inch by-product concentrated seawater discharge line that ultimately connects to the HBGS outfall line. As alternative options, the desalination facility's on site stormwater system could discharge stormwater to the HBGS on site stormwater system or the City's local stormwater system. Stormwater would be treated prior to off site discharge in order to minimize impacts from urban pollutants. The most viable stormwater treatment alternative would be selected during the design phase of the project and would be designed to comply with all applicable requirements of the City and the SARWQCB. Therefore, as explained in Section 4.6 of the SEIR, impacts are less than significant.

Finding for Water Supplies

The Seawater Desalination Project at Huntington Beach will not have a significant impact related to the use of or need for on site water supplies. Less than significant impact.

Facts in Support of Finding

As discussed under Section 4.6 of the SEIR, as well as discussions related to existing and projected water supplies (Section 4.11), implementation of the proposed project would require new facilities to support operational uses (e.g., pipeline extensions, drinking fountains, and restrooms), although these are not anticipated to create significant impacts. It is anticipated that normal domestic demand created by the proposed project can be provided with desalinated water generated on site. However, should the project require potable water from the City, adequate backflow protection devices would be installed and maintained to ensure that no mixing of potable and subpotable water would occur. The project applicant will be required to pay appropriate fees for water service connections, installation, and meters in the event they are required. Impact would be considered less than significant.

Finding for Electricity

The Seawater Desalination Project at Huntington Beach will not have a significant impact on the electrical facilities providing service to the project vicinity. Less than significant impact.

Facts in Support of Finding

See the discussion under Section 4.6 of the SEIR. Under both the co-located and the stand-alone scenarios, based upon power consumption of 15 kilowatt hours per thousand gallons, the proposed 50 mgd desalination facility would require approximately 30 to 35 average megawatts to produce and distribute potable water. As such, the daily energy consumption of the facility is estimated to be between 793 to 840 megawatt hours per day and the total annual power use is estimated to be between approximately 289,715 MHh/yr and MWh/yr 306,680 for the co-located scenario and the stand-alone scenario respectively.

The proposed project's introduction of a new, local source of water into Orange County will result in a net reduction in energy demand that is currently associated with imported water supplies. The project will supply 56,000 afy to Orange County, providing a direct, one-to-one replacement of imported water to meet the requirements of the participating water agencies, and thus eliminating the need to pump 56,000 acre-feet of water into the region. 3.13 MWh of electricity is required to pump 1 acre-foot of State Water Project (SWP) water to the customer. Because the project will avoid the use of 56,000 afy of imported water to Orange County, once in operation, the project will also avoid 175,500 MWh/yr of electricity consumption otherwise required to deliver that water to Orange County. Under the co-located scenario the project requires 289,715MWh/yr, which results in the net increase in total annual electricity consumption of the proposed project of 114,215 MWh/yr. Under the stand-alone scenario the project would require 306,680 MWh/yr, resulting in a net increase in annual electricity consumption of 131,180 MWh/yr.

Electric power-generating plants are distributed throughout the state, and the project's electrical demand would be met by dozens of power plants connected to a regional power supply source, with many of those plants located outside of Southern California. The project includes an electrical substation facility. It is not anticipated that the increase in energy demand and consumption would require expansion of or improvements to existing facilities within the ISO-controlled electricity grid that could result in significant environmental effects. Therefore, impacts to energy resources and facilities would be less than significant.

Finding for Gas

The Seawater Desalination Project at Huntington Beach will not have a significant impact on local natural gas facilities. Less than significant impact.

Facts in Support of Finding

The Southern California Gas Company can provide gas service to the proposed project via numerous gas mains surrounding the subject site. Project implementation would not result in any construction-related impacts to the service area. No impacts are anticipated in this regard.

Finding for Telephone and Cable

The Seawater Desalination Project at Huntington Beach will not have a significant impact on telephone or cable service facilities within the vicinity of the project area. Less than significant impact.

Facts in Support of Finding

Verizon provides telephone service and Time Warner provides cable service within the project vicinity. Verizon has telephone facilities located underground along Newland Street (located west of the project site), aboveground along Edison Avenue (located north of the project site), and aboveground within HBGS property (located south of the project site). Verizon would be available to provide telephone service to the subject site from existing facilities. Cable television access to the City is provided by Time Warner Communications via underground cable along Newland Street. Neither Verizon nor Time Warner anticipate long-term impacts to telephone or cable facilities as a result of project implementation. However, short-term impacts to telephone and cable facilities may occur if underground utility lines along Newland Street are interrupted or

relocated during construction. Proper planning during construction would reduce the likelihood of impacts to these facilities. Impacts would be less than significant.

G. IMPACTS RELATED TO AESTHETICS/ VISUAL CHARACTER AND LIGHT AND GLARE (*SEIR pages 4.7-1 to 4.7-18)*

Section 4.7 of the SEIR addresses the project's potential impacts related to aesthetics/visual character and light and glare. Those potential impacts are addressed in Section 4.0-G of this Statement of Findings of Facts.

H. IMPACTS RELATED TO HAZARDS AND HAZARDOUS MATERIALS *(SEIR pages 4.8-1 to 4.8-18)*

Section 4.8 of the SEIR addresses the potential impacts related to hazards and hazardous materials. Potential long-term operational impacts related to hazards and hazardous materials are addressed in this Section. Short-term hazards/hazardous materials impacts in regards to remediation, construction and demolition are discussed in Section 4.9, Construction-Related Impacts.

Finding for Hazards and Hazardous Materials

The Seawater Desalination Project at Huntington Beach will not result in significant long-term operational impacts relating to hazards or hazardous materials with respect to existing on-site and off-site contamination, project operations, RO membrane cleaning solution or product water treatment materials. Less than significant impact.

Facts in Support of Finding

On-Site and Off-Site Contamination. The proposed desalination project will not result in long-term impacts in regards to existing on- and off-site soil and groundwater contamination. The project site has been identified on various regulatory databases as being contaminated from the release of hazardous substances in the soil or groundwater. Prior to the development of the site, the project would be required to undergo remediation and cleanup activities. The proposed project is expected to have a beneficial impact in regards to long-term hazards and hazardous materials.

Project Operation. The proposed project would involve the storage, handling, and use of hazardous materials. The project will conform to all federal, state and local regulations regarding the transportation, use, storage, generation and disposal of hazardous materials to minimize potential health and environmental hazards that could occur through accidental spills or leakage. A Business Emergency Plan (BEP) and Hazardous Materials Inventory will be prepared by the project for submittal to the City of Huntington Beach Certified Unified Program Agency. In addition to identifying hazardous substances, the BEP includes details that facilitate coordination and emergency planning with on- and off-site response officials and facilities in the event of an emergency.

The Project will be required to submit a Hazardous Materials Disclosure package, consistent with the City of Huntington Beach Hazardous Materials Disclosure Program requirements. The delivery of chemicals to the site will be completed along City roadways located within the vicinity of the project site. Transportation of hazardous materials will comply with all DOT, California Department of Transportation (Caltrans), US EPA, DTSC, California Highway Patrol, and California State Fire Marshal regulations.

RO Membrane Cleaning Solution. The citric acid, sodium hydroxide, sodium tripolyphosphate, and sodium dodecylbenzene would be delivered to the subject site in 50-gallon plastic containers and would be stored in the RO building within concrete enclosures for use of cleaning of RO membranes. A drainage system would be provided for chemical evacuation in the event of an accidental spill. As these chemicals would not be used frequently, they would be delivered to the site on an as-needed basis, and no more than one container per chemical would typically be stored or used at one time. The chemicals listed in the SEIR are nonflammable and would be stored and used at the treatment facility site in quantities below the threshold quantity levels, as defined by the applicable federal, state, and local hazardous materials handling and management regulations, at which they would present a potential for a significant hazard to the public or the environment.

The maximum volume for citric acid, sulfuric acid, and sodium hydroxide, which would be stored on site in liquid form, would be 50 gallons. This volume is below the minimum threshold quantity of 55 gallons defined by the applicable regulations. The sodium tripolyphosphate B and sodium dodecylbenzene B would be delivered and stored in solid form, and the maximum amount of these chemicals stored would be 480 pounds, which is below the most stringent threshold quantity for storing solid hazardous materials (500 pounds).

Mixing of the membrane-cleaning chemicals at the indicated concentrations would not generate flammable substances or a significant amount of hazardous vapor emissions. The chemicals listed in the SEIR would be stored in the membrane cleaning room of the RO building of the desalination facility and would be used and stored on site only while membrane cleaning is being completed. This room would have an automatic sprinkler system for fire control, and spill containment and control provisions in the storage, handling, and dispensing area of the room.

Product Water Treatment Materials. In addition to the RO membrane-cleaning solution, additional chemicals for water treatment would be used, stored, and handled on site (see Section 5.8 of the SEIR for more detail). The design incorporates leak and spill containment measures to minimize the risk of upset to both on site employees and surrounding uses, consistent with all federal, state, county, and City regulations. Hazardous materials would be stored in concrete containment structures with a 110% spill containment capability. If necessary, the inner housing of the concrete containment structure would be coated for resistance to chemicals, and each structure would be separated or divided from other chemicals to prevent mixing in the case of accidental spillage. Storage tanks would be constructed of appropriate, non-reactive materials, compatible with the recommendations of the supplier of the hazardous material.

In the event of an accidental liquid chemical spill, the chemical would be contained within the concrete containment structure and evacuated through an individual drainage system. The spilled chemical would then be pumped into hazardous waste containment trucks and transported off site for disposal at an appropriate facility. This operation would be completed by a specialized contractor licensed in hazardous waste handling and disposal. Spill notification thresholds would be established and published, and appropriate agencies, such as the City of Huntington Beach Fire and Police departments, would be contacted if necessary. The existing containment berms along the northern and eastern boundaries of the proposed desalination site (which are 10 to 15 feet high) would further minimize the potential release of hazardous materials into the adjacent Huntington Beach Channel and wetlands.

Chemicals would be delivered to the desalinization facility by trucks specifically designed and suitable for chemical storage and offloading. On average, less than ten trucks per day is

expected to deliver chemicals to the proposed desalination site, which is considered consistent and compatible with the site's designation as an industrial area. The transportation of hazardous materials to the desalination facility would comply with all California Department of Transportation regulations. The facility would utilize registered haulers to further reduce the potential for accidental release or exposure of these hazardous materials to the environment and individuals during transport.

Hazardous waste management, transportation, use, storage, and disposal information and procedures would be processed and approved through the Huntington Beach Fire Department Hazardous Materials Division and other applicable regulatory agencies. The desalination facility operator would develop hazardous waste management and safety plans and in accordance with OSHA, operation of the proposed facility would require the preparation of a Process Safety Management Program (PSM), which is designed to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

The project would also be in compliance with EPA Risk Management Planning Rule 40 CFR 68, which would require the facility operator to register the facility with the EPA prior to on-site storage of hazardous chemicals. For security purposes, the desalination facility would allow site access to authorized personnel only via a secured entry point with a 24-hour guard. In addition, all chemicals would be managed in accordance with the California Hazardous Waste Control Law and the Hazardous Waste Control Regulations.

Project features that are designed to reduce risks associated with chemical use and storage, combined with regulatory requirements for safe handling and storage of materials will minimize hazards associated with operation. As such, the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. In addition, the project site is not within one-quarter mile of an existing or proposed school. Therefore, impacts in regards to the long-term operational use, storage, and transport of hazardous materials involved in desalination facility operation would be less than significant.

Finding for Off Site Pipeline Alignments and Underground Pump Stations

The proposed desalination project would not result in long-term hazardous operational impacts in regards to off site pipeline alignments and underground pump stations. Less than significant impact.

Facts in Support of Finding

OC-44 Booster Pump Station
As stated within Section 5.8 of the SEIR, the proposed off-site pipeline alignments would occur adjacent to a variety of land uses, primarily within existing street ROWs and easements. No known areas of hazardous materials exist along the proposed alignments. Hazardous materials impacts due to long-term operation of the pipelines are not anticipated to occur, as the only liquid proposed for conveyance is potable water. Diesel fuel would be stored within an 8,700-gallon, double-walled tank with a diameter of 8 feet and a height of 26 feet. The tank would be located underground since the entire pump station vault would be located below grade, including the backup diesel generators. The storage tank would be located nearby but separate from the pump station vault and would feature a double-walled containment system with monitoring equipment to prevent and detect leakage. The tank would be contained within the

surrounding soil and would supply diesel fuel to the generators (housed within the pump station vault) during power emergencies.

Coastal Junction, Magnolia, Brookhurst an Bristol Booster Pump Stations
The pump stations would also require the storage of diesel fuel for the operation of one emergency backup electrical generator. Diesel storage capacity for one backup generator would be 1,300 gallons. This diesel fuel would be stored in a similar manner as the OC-44 pump station discussed above, and the same safety precautions (i.e., double-walled containment system, leakage monitoring equipment) would be incorporated into the pump station design.

Modifications to the existing OC-35 Pump Station would only involve pump replacement, and would not otherwise affect the facility or operations, including storage of hazardous materials. Impacts in regards to the off site use, storage, and transport of hazardous materials are not anticipated to be significant.

I. IMPACTS RELATED TO CONSTRUCTION (*SEIR pages 4.9-1 to 4.9-64)*

Section 4.9 of the SEIR addresses the project's potential impacts related to construction. Those potential impacts are addressed in Section 4.0-I and Section 5.0 of this Statement of Findings of Facts.

J. IMPACTS RELATED TO OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES (*SEIR pages 4.10-1 to 4.10-68*)

Section 4.10 of the SEIR addresses the project's potential impacts related to ocean water quality and marine biological resources. Those potential impacts are addressed in this Section.

Finding for Potential Sources of Contamination in Proximity to the HBGS Intake

The Seawater Desalination Project at Huntington Beach will not be significantly impacted by Orange County Sanitation District (OCSD) wastewater discharge, urban stormwater runoff, dry weather runoff, the recirculation of HBGS discharge, the Los Angeles and San Gabriel Rivers, cruise ships and fishing boats, recreation, oil and gas production facilities, the operation of HBGS, or elevated bacteria levels in the Huntington Beach surf zone. Less than significant impact on the HBGS seawater intake.

Facts in Support of Finding

Oceanographers from the Scripps Institution of Oceanography conducted modeling studies using a computer model that simulates ocean conditions near the HBGS intake and outfall. The modelers from Scripps used their many years of experience working along the Southern California coast to determine the worst case conditions that would be modeled. The worst case conditions were chosen to determine if any adverse water quality or environmental impacts occurred under extreme ocean and weather conditions that were most likely to show an effect. The analysis in Section 4.10 of the SEIR shows that there will be a less than significant impact on the HBGS intake from potential contamination sources.

Impact from OCSD Wastewater Discharge:
The worst-case model results show that the OCSD discharge is diluted 30 million to one at the HBGS intake. Any contaminants discharged at the OCSD outfall would be diluted far below background levels at the intake to the HBGS. Therefore, the OCSD discharge does not have a significant source of contamination at the HBGS intake. As far as other constituents of concern

for the OCSD discharge, the desalination facility discharge water quality would be well within the limits established in the Ocean Plan. Impacts in this regard will be less than significant.

Impact from Urban Stormwater Runoff:
During a 24-hour extreme runoff period only 0.0003 percent of the water at the HBGS intake would come from the Santa Ana River and Talbert Marsh and the remaining 99.9997 percent would be seawater. These results show that contaminants are not transported to the HBGS intake from the Santa Ana River and Talbert Marsh during extreme storm conditions. More detailed modeling results are presented in the appendix for the SEIR. Impacts will be less than significant in this regard.

Impact from Dry Weather Runoff:
Tidal flushing of the Talbert Marsh would have the greatest potential to impact water quality at the HBGS intake during high spring tides combined with summer El Nino conditions when currents are flowing northwest from the marsh towards the intake. Under these worst-case conditions, the marsh water is diluted 20,000 to one and essentially does not reach the intake. This is due to the fact that the marsh water is released into the surf zone and the onshore waves keep the marsh water in the shallow nearshore waters, whereas the HBGS intake is located 1,840 feet offshore at a depth of approximately 33 feet. Impacts will be less than significant.

Impact from the Recirculation of HBGS Discharge:
The HBGS outfall is located approximately 1,500 feet offshore and 340 feet from the HBGS intake. The potential for recirculation of the discharge into the intake was examined. The discharge consists primarily of cooling water, but a small amount of power plant process wastewater and stormwater can be mixed with the cooling water. The concentrated seawater from the proposed desalination facility will also be mixed with the power plant cooling water.

Recirculation of the HBGS discharge would have the greatest potential to impact water quality at the intake during El Nino storm conditions when the maximum amount of storm water is being discharged through the outfall. The hydrodynamic model for recirculation of the HBGS discharge was run using the El Nino conditions of February 1998 and the maximum allowable discharge of 1.66 MGD of generating station process wastewater and storm water. In addition, the proposed desalination facility was assumed to be running at full capacity so that 50 MGD of concentrated seawater discharge was mixed with the cooling water discharge. The model results for a 7-day extreme runoff period show that only 0.1 to 0.3 percent of the HBGS discharge would be recirculated to the intake. It should be noted that in the stand-alone operating condition, the discharge recirculation would be slightly less that the 0.3 percent modeled for the co-located condition. Based on these results, the recirculation of the HBGS discharge during storm events does not present any significant impacts on source water quality.

Impacts from the Los Angeles and San Gabriel Rivers:
The Los Angeles River discharges to the ocean approximately 16 miles upcoast (i.e. northwest) from HBGS, while the San Gabriel River discharges approximately 11 miles upcoast. The amount of dilution that occurs and the fact that the generating station intake is at a depth of approximately 33 feet indicates that contaminants entering the ocean from these two rivers would not likely affect the water quality at the HBGS intake, and would not present any significant impacts on source water quality.

Impacts from Cruise Ships and Shipping Boats:
The nearest major port for cruise ships is located approximately 16 miles northwest of the HBGS intake. Ingress/egress routes for cruise ships for Long Beach and Los Angeles Harbors

do not come in close proximity to the HBGS. In addition, given the limited nature of sportfishing that occurs in the project site vicinity, impacts are less than significant.

Impacts from Recreation:
Any contaminants released into the ocean due to recreational use are likely to be small in quantity greatly diluted due to tidal action. It would be difficult for such contaminants to reach the HBGS intake due to its depth of approximately 33 feet below the ocean surface. Impacts in regards to recreational uses are not anticipated to be significant.

Impacts from Oil and Gas Production Facilities:
There are two offshore oil platforms approximately 1.5 miles west of the HBGS intake and four platforms approximately 10 miles west of the intake. There have not been any reportable spills or leaks from the offshore oil platforms or the pipelines. A catastrophic event at one of the offshore platforms that is near the coast could affect water quality at the HBGS intake. However, given the relatively low probability based on operational history, impacts in this regard are less than significant.

Impacts from Operations at HBGS:
There are numerous water quality constituents regulated in drinking water supplies. Samples were collected from the HBGS intake vault and from the outlet of the condensers (where the desalination facility intake will be located). Although maximum contaminant levels (MCLs) apply to treated drinking water, raw water concentrations that exceed MCLs provide an indication of potential contaminants of concern. None of the primary MCLs are exceeded in the intake water and the only secondary MCLs that are exceeded are salts (TDS, chloride, sulfate) that would be removed by the reverse osmosis process. Impacts are less than significant in this regard.

Cycle water is discharged to the cooling water system at various locations as the cooling water flows through the generating station. The cycle water is under vacuum so the cooling water leaks into the cycle water but the cycle water does not leak into the cooling water. There are several locations where cycle water is discharged into the cooling water system. The contaminants in these discharges will be greatly diluted by the large volume of cooling water compared to the small volume of the discharges. The only chemical of concern in a drinking water source is nitrite. The other chemicals in the discharges are not toxic to humans and drinking water standards have not been established. Because the volume of cooling water represents a maximum of 0.002 percent of the cooling water flowing through one unit at the HBGS, the nitrite concentration of 800 mg/L will be diluted to about 0.02 mg/L in the cooling water that would reach the desalination facility. This level of nitrite is well below the drinking water MCL of one mg/L. Nitrite and the other chemicals present in the cycle water discharges will easily be removed by the reverse osmosis membranes. As a result, impacts in this regard are less than significant.

Storm runoff from the HBGS site and a limited amount of off site urban runoff is currently discharged to the cooling water system upstream of the intake to the desalination facility. The applicant would coordinate with HBGS to reroute these discharges during construction of the desalination facility so they would be downstream of the desalination intake and not affect water quality at the desalination intake. The off site urban runoff is from approximately 70 acres of land near the HBGS. Dry weather runoff collects in a ditch alongside Newland Street and is currently pumped into the HBGS outfall pipeline. The City of Huntington Beach plans to modify the system so that it flows into the HBGS site by gravity when improvements are made to Newland Street as part of the conditions placed upon the project by the City of Huntington Beach. Impacts are less than significant in this regard.

Low volume wastes, metal cleaning wastes, and pipeline hydrostatic test water are diverted to the HBGS retention basin and then to the outfall, where the wastewater is mixed with cooling water. Currently this waste is discharged downstream of the intake to the desalination facility and would not be included in the source water for the proposed desalination facility. As a result, impacts in this regard are not anticipated to be significant.

A number of petroleum products and other hazardous materials are stored and used at the generating station. Although unlikely due to spill prevention measures and clean-up procedures in place at the HBGS, there is the potential for a spill to reach the floor drain or the storm drainage system and enter the cooling water system. The floor and yard drainage system currently enters the outfall line downstream of the point where the desalination facility will be located and would not be included in the desalination facility's source water. As a result, impacts in this regard are not anticipated to be significant.

Periodically water from the discharge vault is diverted back into the facility and reheated. This reheated water is then used to clean the discharge line of biological growths ("bio-film"). This recirculated water contains wastes that have been discharged to the discharge vault prior to the flow being reversed in the facility. The proposed desalination facility would not intake water from the HBGS cooling water system during heat treatments. In this regard, impacts are less than significant.

Impacts from Elevated Bacteria Levels in the Huntington Beach Surf Zone:
As discussed in the SEIR, extensive bacterial studies have shown that the Santa Ana River and Talbert Marsh appear to be the primary sources of fecal indicator bacteria to the near shore ocean. In addition, bird droppings and a reservoir of bacteria stored in the sediment and on marine vegetation may continue to be the source of bacteria at the mouths of the river and marsh. Modeling studies and monitoring data indicate that there is likely another unidentified source of bacteria in the vicinity of Stations 6N and 9N. However, three separate studies conducted between 2001 and 2002 have demonstrated that HBGS is not the source of bacteria in the surf zone.

Contaminants are not transported to the HBGS intake from the Santa Ana River and Talbert Marsh during extreme storm event conditions. In addition, dry weather urban runoff at Talbert Marsh during tidal flushing essentially does not reach the HBGS intake. Although the cause of the elevated bacteria levels in the Huntington Beach surf zone has not been determined, the seawater desalination process would have the ability to remove bacteria and produce potable water meeting all State Title 22 standards. Impacts in this regard are less than significant.

Finding for Concentrated Seawater Discharge

The proposed desalination project concentrated seawater discharge will not significantly impact ocean water quality or marine biological resources in the area. Less than significant impact.

Facts in Support of Finding

As explained in Section 4.10 of the SEIR, the proposed project's discharge would not have a significant effect on organisms living around the discharge or organisms that would pass through the area. A suite of biological facts indicates that the combined thermal and reverse osmosis discharge would not be large enough to have a significant biological impact on the marine species or communities living near the HBGS (as the reverse osmosis process would not involve the heating or cooling of circulated ocean water, thermal impacts would not occur). Most of the marine organisms living near the HBGS also occur in areas of the SCB and beyond

it where salinities can be greater than those that would occur in the combined reverse osmosis and HBGS discharge field. For example, the natural geographic distributions of most of the species living at Huntington Beach extend south to near the tip of Baja California where both coastal temperatures and salinities are as high or higher than those predicted for most areas in the combined discharge field. In addition, some of these species or ones very closely related to them live in the upper part of the Gulf of California where salinities are 36–38 ppt and can be as high as 40 ppt. Thus, many of the species present in water around Huntington Beach naturally experience a salinity range comparable to or greater than what is predicted of the combined discharge area. Increased salinities of the HBGS flow will not cause a potential impairment of essential fish habitat (EFH) functions, and the project will not result in a significant impact or adverse affect on EFH.

Hydrodynamic modeling for the project also finds that an elevated salinity zone would occur around the discharge core and that all organisms living within these areas would encounter it. For the animals swimming in the water (some macroinvertebrates, fishes, turtles, mammals), the duration of their elevated salinity exposure would depend on their location and their residence time in the zone. Such a brief exposure time would have no effect on marine mammals, turtles, or most fishes which are good osmoregulators and while most fishes are unlikely to prefer salinities this high, comparative data showing fish easily tolerate high salinities for short periods suggest these salinities could be tolerated for a short time. Also, fishes would have the ability to “sense” such a marked salinity change in the water and could thus alter their swimming direction to avoid it.

In the case of organisms that drift across the elevated salinity area, models developed for the discharge flow field show that planktonic animals drifting though the discharge area would experience elevated salinity for variable times. These times would depend upon both the area of the zone and the organism’s rate of drift and its position relative to the discharge core.

Under low flow worst case scenario, exposure to the inner discharge core would be less than one hour and exposure to the core’s periphery would be two to three hours. Short-term exposures to higher salinity levels can be tolerated with no impact to marine organisms. While plankton, fishes and other water-column residents would have relatively brief exposures to the highest salinities within the elevated salinity zone, this would not be the case for the benthic organisms occurring in the discharge area. Bottom-dwelling organisms living near the core would experience an increased salinity. One likely biological result of this elevated benthic salinity zone would be some reduction in the total diversity of species living within the zone and the likely increase in the concentration of species having a greater tolerance to the elevated salinity. Such species may already exist in the Huntington Beach bottom community or species from other nearby coastal habitats (tide pool, bays) where salinity is more variable may be recruited to this zone.

Summary of Significance for Elevated Salinity Exposure Effects – Co-located Scenario
The elevated salinity levels anticipated under the co-located operation scenario would conform to the discharge limitations established in Order No. R8-2006-0034, and would be less than significant. As further addressed in this analysis, the areas affected by salinities higher than 40 ppt would not represent substantial ecological effects due to the following factors. Therefore no significant impacts would result.

- Benthic areas do not contain natural hard bottom habitats that support sensitive species

- Fishes, plankton, and other pelagic animals that encounter elevated salinity in the discharge region will have very low exposure times (on the order of a few hours)

- Foraging areas affected by elevated salinity are limited in size, and would not represent a substantial displacement in foraging areas, or otherwise substantially affect foraging behavior

- No threatened or endangered species or kelp beds exist within the vicinity of the HBGS outfall

- No significant effects on EFH functions would occur

Summary of Significance for Elevated Salinity Exposure Effects – Stand-alone Scenario
The elevated salinity levels anticipated for the desalination facility in the stand-alone operation scenario would maintain a salinity level of 40 ppt or less at 100 feet from the base of the discharge tower (10% of the ZID), and will thereby comply with the Ocean Plan standards. Similar to the co-located condition, the areas affected by salinities higher than 40 ppt would not represent substantial ecological effects due to the following factors. Therefore no significant impacts would result.

- Benthic areas do not contain natural hard bottom habitats that support sensitive species

- Fishes, plankton, and other pelagic animals that encounter elevated salinity in the discharge region will have very low exposure times (on the order of a few hours)

- Foraging areas affected by elevated salinity are limited in size, and would not represent a substantial displacement in foraging areas, or otherwise substantially affect foraging behavior

- No threatened or endangered species or kelp beds exist within the vicinity of the HBGS outfall

- No significant effects on EFH functions would occur.

Co-located Operation – Concentration Standards
The Ocean Plan establishes receiving water concentration standards for the protection of aquatic habitat and human health for toxic metals, cyanide, chlorine residual, phenolic compounds, and several chlorinated organic compounds. The project (see above) is also not projected to result in any change in the Regional Board-assigned initial dilution value used for computing compliance with California Ocean Plan (COP) receiving water standards.

Chemical comparisons show that all of the trace elements considered in the discharge analysis already occur in the source water and they have the same concentration off Huntington Beach coast as they do in coastal oceans throughout the world. Chemical and physical factor comparisons between the source water and the RO facility discharge stream demonstrate the “concentrating effect” of RO on the source seawater but also show that the RO operation will not significantly affect water turbidity, suspended solids, pH, and oxygen levels.

Mass balance tests results were based on the assumption of a low HBGS flow rate and thus conservatively overestimate the concentration that would be expected under normal operation conditions. Nevertheless, the results show that while these trace elements will become slightly

concentrated by RO, their discharge concentrations remain far below the numerical water quality standards established to protect aquatic marine life by the Environmental Protection Agency and by the State of California. The only change in discharge water chemistry resulting from the RO facility will be an elevation in dissolved iron. However, this concentration is low and, like the salinity difference between the discharge and receiving waters, the iron concentration will be rapidly diluted to ambient levels. There are no numerical water quality standards governing the discharge of iron, which is usually present in low concentrations in seawater. Moreover, iron is an important ocean nutrient (essential for the growth of phytoplankton) and is likely to be biologically assimilated by primary produce organisms (mainly phytoplankton) in the discharge plume. As illustrated in the SEIR, discharge of the concentrated seawater would not exceed receiving water concentration standards related to aquatic habitat or human health, and therefore no significant impacts would result.

Stand-alone Operation – Concentration Standards
Because the stand-alone operating condition involves a larger flow volume than was assumed for the worst case co-located condition, and because the desalination facility discharges would contain the same concentrations of the same constituents, the stand-alone operating condition would have lower concentrations of seawater constituents than identified for the co-located condition. Discharge of the concentrated seawater would not exceed receiving water concentration standards related to aquatic habitat or human health, and therefore no significant impacts would result.

Finding for Reverse Osmosis Membrane Cleaning Solution

The Seawater Desalination Project at Huntington Beach will not significantly impact ocean water quality or marine biological resources due to the discharge of reverse osmosis membrane cleaning solution through the HBGS outfall. Less than significant impact.

Facts in Support of Finding

As stated in the SEIR, for the co-located operation, the reverse osmosis system trains will be cleaned using a combination of cleaning chemicals such as industrial soaps (e.g. sodium dodecylbenzene, which is frequently used in commercially available soaps and toothpaste) and weak solutions of acids and sodium hydroxide. The “first rinse“ treated waste cleaning solution from the washwater tank will be discharged into the local sanitary sewer for further treatment at the OCSD regional wastewater treatment facility. The cleaning rinse water following the “first rinse“ will be mixed with the RO facility concentrated seawater, treated waste filter backwash, and the AES facility discharge and sent to the ocean. This “second rinse“ water stream will contain trace amounts of cleaning compounds and would be below detection limits for hazardous waste. An Industrial Source Control Permit from the OCSD for discharge of waste cleaning solution into the sanitary sewer system will be required for the project. In addition, the discharge must comply with the limits and requirements contained in the OCSD’s Wastewater Discharge Regulations.

An alternative to discharging the “first rinse” of the RO membrane cleaning solution into the OCSD system is to discharge the solution (“first rinse” and all subsequent rinses) into the Pacific Ocean via the HBGS outfall. On a typical day, this alternative would blend 200,000 to 300,000 gallons of cleaning solution at a rate of 150 to 200 GPM (0.2 to 0.3 MGD) with 50 MGD of concentrated seawater by-product discharge, 10-15 MGD of treated filter backwash, and 400 MGD of HBGS cooling water discharge. Under a low flow scenario (high membrane cleaning solution concentration and low concentrations of concentrated seawater discharge, filter backwash, and HBGS cooling water discharge), the membrane cleaning solution would be

diluted at a ratio of 260:1. The majority of the chemicals within the membrane cleaning solution would be either below detection levels or regulatory limits, even before dilution with other desalination facility and HBGS discharges. Dilution at a 260:1 ratio would further minimize impacts to the marine environment and would assure NPDES compliance. Because the project's reverse osmosis cleaning solution first rinse discharge would not exceed regulatory limits of contaminants, no significant impacts would result.

Because the stand-alone operating condition involves a larger flow volume than was assumed for the worst case co-located condition, and because the volume of membrane cleaning solution would be the same as with the co-located condition, the stand-alone operating condition would have a higher mixing ratio, and lower concentrations of cleaning solution constituents than identified for the co-located condition. Because the project's reverse osmosis cleaning solution discharge would not exceed regulatory limits of contaminants, no significant impacts would result.

Finding for Impingement and Entrainment

The proposed desalination facility will have less than significant impacts on marine biological resources in regards to impingement and entrainment effects. Less than significant impact.

Facts in Support of Finding

As explained in Section 4.10 of the SEIR, recent studies on the effects of the HBGS cooling water intake system on the ocean environment were conducted in connection with a re-powering project certified by the California Energy Commission (CEC). An Impingement Mortality and Entrainment (IM&E) Characterization Study (MBC and Tenera Environmental 2005) was submitted to the Santa Ana Regional Water Quality Control Board as part of the HBGS NPDES permit application that required compliance with provisions of the 316(b) Phase II regulations of the Clean Water Act. The sampling data collected in this 2003□2004 IM&E study were included as part of the desalination facility impingement and entrainment study conducted for the project.

Co-located Operation
The desalination facility's feedwater would be withdrawn from the HBGS discharge and not directly from the open ocean, and its withdrawal does not affect HBGS intake requirements. The project does not require the HBGS to increase the quantity of water withdrawn nor does it increase the velocity of the water withdrawn. The desalination intake study is designed to investigate the potential for desalination facility feedwater intake withdrawn from the HBGS cooling water system to increase HBGS entrainment mortality and assess the significance of this potential entrainment effect on the source water.

The project source water intake would not increase the volume, or the velocity of the HBGS cooling water intake nor would it increase the number of organisms entrained or impinged by the HBGS cooling water intake system. The proposed desalination facility would not cause any additional impingement losses to the marine organisms impinged by the HBGS, as these organisms would not be exposed to further screening prior to entering the desalination facility's pretreatment system. The proposed desalination facility would not have a separate direct ocean water intake and screening facilities, and would only use cooling water that is already screened by HBGS's intake. Co-location of the desalination facility with the HBGS reduces the amount of source water required to be withdrawn directly from the ocean and avoids impingement impacts that would otherwise result from the siting and implementation of a new intake structure.

Entrainment sampling for the desalination feedwater was conducted at an onshore point in the HBGS discharge line just before it is returned in conduits to an offshore discharge location. Bi-weekly samples were collected since the beginning of March 2004 by pumping measured volumes of cooling water discharges through small-mesh nets. Six taxa (gobies, blennies, croakers, northern anchovy, garibaldi, and silversides) and a group of larvae that could not be identified were found to comprise 97 percent of all the fish larvae present in the HBGS cooling water system from which the project would withdraw its source water supply. Species with high commercial and recreational importance, such as California halibut and rockfishes, were shown to be very uncommon in the HBGS intake flows. Under HBGS minimum intake cooling water flow of 127 MGD, and assuming 100 percent through-HBGS larval mortality (based on USEPA 2004), the estimated larval fish entrainment loss is 0.33 percent of the total population of larvae in the local area surrounding the HBGS intake.

Based on in-facility testing, the observed mortality of HBGS is 94.1 percent and the combined estimated mortality of the project and HBGS at flows of 507 MGD would be 95.3 percent (an increase in mortality of 1.2 percent due to the proposed desalination facility) and 98.7 percent at HBGS flows of 127 MGD (an increase in mortality of 4.6 percent due to the proposed desalination facility). This assessment assumes 100 percent mortality of all organisms upon withdrawal into the desalination facility. Estimated larval fish loss attributed to the proposed desalination facility would be 0.02 percent (based on HBGS entrainment mortality of 94.1 percent) of the total population of larvae in the local area surrounding the HBGS intake. This would be an order of magnitude less than the HBGS larval population entrainment loss of 0.33 percent. The 0.02 percent figure accounts for the incremental amount of larval fish loss resulting from the proposed desalination facility, aside from that of the HBGS.

From a regional perspective, model results for larval gobies, northern anchovy, and white croaker showed that approximately 0.33 percent of the larvae in the HBGS source water could be affected by HBGS operations at 127 MGD; this represents a de minimis fraction of the total numbers of larval fishes in the Southern California Bight. Results were modeled on encounter rates for the most abundant species entrained from the source water. The loss of marine organisms due to the potential entrainment of the project has no effect on the species' ability to sustain their populations. Impacts on marine organisms due to the potential entrainment resulting from the co-located project would not substantially reduce populations of affected species, and would not affect the ability of the affected species to sustain their populations. Therefore, impacts would be less than significant.

Stand-alone Operation

As noted in the discussion of elevated salinity effects, in order to achieve the anticipated required dilution of concentrated seawater, the desalination facility operating in the stand-alone condition would require a higher intake flow volume than was analyzed for the worst-case/low flow circumstances in the co-located condition. To further determine the potential effects of the project under stand-alone conditions on larval fishes and shellfishes, data from the 2003–2004 study were re-analyzed using a proposed intake volume of 152 MGD. The daily intake flow of 507 MGD used in impact assessment for the co-located condition was reduced to the proposed 152 MGD flow to model impacts from the desalination facility in a stand-alone operating condition.

The most abundant species impinged were queenfish (81%), northern anchovy (6%), white croaker (3%), and shiner perch (2%). No threatened or endangered species were collected during the sampling. It should also be noted that the project is not within an Area of Special Biological Significance (ASBS). All of the other species comprised 1% or less of the total

estimated impingement. The proposed operation of the HBGS intake system under stand-alone operation for the desalination facility would result in an estimated average daily impingement of 13 fishes weighing 0.3 kg (0.7 lb). The estimated average daily impingement rate for shellfish was approximately 7 individuals weighing 0.1 kg (0.2 lb). The most abundant species were yellow crab (41%), graceful crab (19%), and Pacific rock crab (13%). Other shellfishes in impingement samples included shrimps, octopus, spiny lobster, and market squid. Impingement would not result in substantial reductions in fish or shellfish populations under stand- alone operating conditions. It is not anticipated that the small amount of impingement losses would have any effects on the ability of impinged species to sustain their populations, and therefore impacts would be less than significant.

The total estimated number of fish larvae entrained annually, based on a pumping rate of 152 MGD, was 103,303,290. Ten taxa comprised approximately 91% of the total larvae collected: unidentified gobies, spotfin croaker, anchovies, queenfish, white croaker, salema, unidentified croakers, combtooth blennies, black croaker, and diamond turbot. Of the five target invertebrate taxa included in the study (cancrid crab megalops, market squid postlarvae, Pacific sand crab, California spiny lobster, and ridgeback rock shrimp) only Pacific sand crab and cancrid crabs were found in the entrainment samples. Pacific sand crab zoeae comprised almost 98% of the entrained target invertebrates. Almost all of the Pacific sand crab larvae collected were in the earliest stages of their larval development (zoea Stage I); only two megalopal stage larvae were collected from entrainment samples and none were collected from source water samples. The most abundant taxon of larval fish entrained (33%) was CIQ gobies, comprised of three species of small, bottom-dwelling types of fish that are common in bays and lagoons. Nearby adult populations are concentrated in localized habitats, such as Alamitos Bay, Anaheim Bay, and Talbert Marsh, and their larvae are dispersed in these environs and transported out into coastal waters by tidal flushing and prevailing currents. These larvae would experience high rates of natural mortality at the intake location, because the intake is located in an area that does not provide suitable habitat to sustain resident adult populations, and there is a low likelihood that larvae that have been flushed into the area of the intake would be able to return to the shallow bay habitats that meet the species life history requirements.

Larval entrainment losses due to operation of the project in the stand alone operating condition are projected to affect only a small fraction of the larvae (0.02-0.33%) of the source water populations of approximately 115,000,000,000 (billion) individual larval fish at risk to entrainment, that occur within the project's source water. The IM&E studies at HBGS demonstrate estimated levels of proportional mortality that are much less than the estimates from other coastal power plants in California. Impacts on marine organisms due to the potential entrainment resulting from the project are relatively small, and would not substantially reduce populations of affected species, or affect the ability of the affected species to sustain their populations. Therefore, impacts would be less than significant.

In regard to the potential indirect impacts on prey species of the California least tern, under either the co-located or stand-alone operating scenario, a study by Atwood and Kelly (1984) indicates that northern anchovy, topsmelt, jacksmelt, and deepbody or slough anchovies were the primary food sources for least terns in California. Based on the species' mobility, diversity of diet and lack of significant impacts on fish species (as discussed in relation to impingement and entrainment effects), California least terns (as well as other birds that utilize this area for foraging of fish species) are not expected to be impacted by implementation of the project. There does not appear to be a substantial adverse effect on the species resulting from any reduction in prey species that could be attributable to the HBGS. Therefore, such effects would similarly not be anticipated with operation of the desalination facility operating in a stand-alone condition.

K. IMPACTS RELATED TO PRODUCT WATER QUALITY (*SEIR pages 4.11-1 to 4.11-28)*

Section 4.12 of the SEIR addresses the project's potential impacts related to product water quality. Those potential impacts are addressed in Section 4.0-K of this Statement of Findings of Facts.

L. IMPACTS RELATED TO CLIMATE CHANGE (*SEIR pages 4.12-1 to 4.12-34)*

Section 4.12 of the SEIR addresses the project's potential impacts to climate change. Those potential impacts are addressed in this Section.

Finding for Potential Impact to Climate Change

The Seawater Desalination Project at Huntington Beach will not result in significant impacts to climate change. Less than significant impact.

Facts in Support of Finding

As discussed in Section 4.12 of the SEIR, the SCAQMD significance threshold of 10,000 $MTCO_2E$/yr for industrial projects is being utilized to assess the significance of the proposed project's GHG emissions, even though SCAQMD is not the lead agency. This threshold includes both operational emissions (direct and indirect) plus construction emissions. The proposed project would result in direct GHG emissions of 2,187 to 2,191 metric tons of CO_2 during project construction, and 4,128 metric tons of CO_2 aggregated over the 30 year life of the Project (424 $MTCO_2$ per year) under both the co-located and stand-alone scenarios. Additionally, based on the information contained in Tables 4.12-4 through 4.12-6 in the SEIR, the proposed project would result in net indirect GHG emissions between 22,188 to 29,205 metric tons of CO_2 per year for the co-located scenario, and 25,929 to 26,160 metric tons of CO_2 per year under both the co-located and stand-alone scenarios. While these emissions are larger than the 10,000 $MTCO_2E$/yr threshold, the proposed project has incorporated project design features included in its Energy Minimization and Greenhouse Gas Reduction Plan, which would offset the project's GHG emissions entirely, and as a result impacts would be less than significant.

The proposed project would incorporate project design features that require a one-time purchase of GHG offsets or RECs for the Project's direct GHG emissions associated with Project construction and vehicle use during operation of the Project. This would offset direct emissions of 6,315 to 6,319 metric tons of CO_2 (2,187 to 2,224 metric tons for construction and 4,128 metric tons for vehicle operations over the project's 30-year life). Project design features would require the purchase of offsets or RECs to cover estimated net indirect GHG emissions over the life of the project (equivalent to 22,188 to 29,205 metric tons of CO_2 per year), as well as an annual reporting process to ensure that the applicant maintains a zero net GHG emissions balance.

With incorporation of these project design features, the project would have a net zero increase in GHG emissions. Therefore, the project would have emissions below SCAQMD's 10,000 $MTCO_2E$/yr threshold, and project impacts would be less than significant. Further, because the project design features require the project to maintain a zero net GHG emission balance, the project would not cause an increase in GHG emissions above the existing baseline, and therefore would have no GHG emission impact on the environment.

The proposed project is also being evaluated based on whether it would conflict with any applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gases. While AB 32 does not regulate the project's direct or indirect GHG emissions (and there are no other statewide GHG regulatory programs that are applicable to this project), the project is being evaluated on whether it would conflict with AB 32's statewide goals of reducing GHGs through actions such as energy efficiency, green building design, renewable energy generation and reduced water importation.

The proposed project would incorporate project design features that reduce energy requirements (increased energy efficiency, green building design, recovery of CO_2, and potential on site solar generation) in order to reduce its emissions. In addition, the project's design features include GHG offsets that would entirely offset the project's net GHG emissions above the existing baseline. With the incorporation of the project design features, project GHG reductions would result in a net zero emission of GHGs. As a result, the proposed project would not conflict with AB 32.

In addition to the project resulting in no conflict with AB 32, the proposed project would not conflict with any other plans, policies, or regulations intended to reduce GHG emissions, as indicated below. The City of Huntington Beach has not adopted a Climate Action Plan or any other plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and therefore the Project does not conflict with any such plan, policy or regulation.

CARB's Scoping Plan provides an outline for actions to reduce California's GHG emissions. The Scoping Plan requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. At this time, no mandatory GHG regulations or finalized agency guidelines would apply to this project, and therefore the Project does not conflict with any such regulations or guidelines.

SB 375 addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the Sustainable Communities Strategy or Alternative Planning Strategy. The City is not anticipating a zone change or change in land use for the proposed project site in response to SB 375, and because the proposed project consists of a seawater desalination facility and associated infrastructure, it would not result in a significant number of vehicle trips during the operational phase. As a result, the proposed project would not conflict with the goals of SB 375.
As noted in the discussion of environmental setting, the California Global Warming Solutions Act of 2006 (Health and Safety Code Section 38501(a)), cites rising sea levels as a potential adverse impact of global warming. The sea level rise projected by the documented models described earlier in this section spanned a fairly large range. However, it appears that the various projections for sea level rise could affect primarily the intake and discharge features of the project. The project site is proposed to be at elevations ranging from 9.0 to 14.0 feet above AMSL, with all building foundations above 10.0 feet AMSL. Therefore the project site will be protected from a potential two feet rise in sea level. In addition, earthen berms around the site are sufficient for protection from surges that could occur from waters to the south. It is not anticipated that a rise in sea level of up to 2 feet or more within the life span of the project would result in substantial increase in exposure of the project to potential adverse impacts. Accordingly, no significant impacts from this potential adverse effect of global warming, as identified in the California Global Warming Solutions Act of 2006, would occur.

Since the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, no significant impact would occur.

M. CUMULATIVE IMPACTS *(SEIR pages 5-16 to 5-36)*

Section 5.3 of the SEIR addresses the project's potential cumulative impacts. All of the project's potential cumulative impacts are addressed in this Section, except for cumulative construction related impacts regarding air quality. Potential cumulative construction related impacts regarding air quality are addressed in Section 5.0-A of this Statement of Findings of Facts.

Finding for Potential Local Cumulative Impacts

The Seawater Desalination Project at Huntington Beach will not result in significant local cumulative impacts. Less than significant impact.

Facts in Support of Finding

Table 5-4 in Section 5.3 of the SEIR contains a list of all of the potential cumulative projects that have the potential to act in a cumulative manner with the proposed project in order to create potential impacts on the environment. Each impact category is discussed below.

Land Use/Relevant Planning
The proposed project is not considered to represent a significant cumulative land use or relevant planning impact, as the project is consistent with the City of Huntington Beach General Plan. All projects taking place within the cumulative impact study area would conform to local and regional land use plans as well as applicable planning regulations governing current and future development. Mitigation of cumulatively significant land use impacts are best accomplished by area-wide mitigation programs, conforming to the adopted zoning, and General Plan designations, and implementing project-specific mitigation measures where appropriate. Therefore, it is not anticipated that development of cumulative projects will result in a significant cumulative impact.

Geology and Soils
Cumulative effects related to earth resources resulting from the proposed project and development in the vicinity of the proposed project include short-term increases in erosion due to excavation, backfilling, and grading activities. These impacts are anticipated to be mitigated by enforcing proper erosion protection measures during remediation and construction of the proposed project, and would be mitigated on a project-by-project basis. In addition, sites with unsuitable development conditions, such as liquefaction and seismic hazards, are best mitigated on an individual basis. The proposed project and all projects located within the cumulative impact study area would comply with the Uniform Building Code and all erosion control measures established by the city with applicable jurisdiction, including all erosion and sedimentation avoidance and reduction measures contained in regional stormwater permits and related plan and requirements. Following construction of several projects within the cumulative impact area, revegetation of previously excavated areas would take place and habitat would be restored, which would reduce the potential of soil erosion. Because each project would require specific mitigation in conformance with regional standards, the cumulative impacts on geology and soils resources would be less than significant.

Hydrology and Water Quality
Cumulative impacts with regards to hydrology and water quality would primarily result from off-site runoff containing urban pollutants, as the majority of the project site would be composed of

impervious surfaces. However, as previously stated, the proposed desalination facility and all projects located within the cumulative impact study area would incorporate protection measures and/or site design BMPs to avoid hydrology and water quality impacts during operation. All site runoff would be directed to appropriate storm drains via an on-site local drainage system, ultimately being discharged into the Pacific Ocean via the HBGS outfall. In addition, impacts would be further minimized as the existing berm along the eastern perimeter of the project site (adjacent to the Huntington Beach Channel) would prevent runoff impacts to the adjacent wetlands to the southeast. The desalination facility's discharge into the Pacific Ocean is not considered a significant cumulative impact, as discussed in Section 4.3, Hydrology and Water Quality. Similar to the impacts on geology and soils, hydrology and water quality impacts resulting from development of cumulative projects would be regularly subject to application of consistent regulatory requirements that have been put in place to avoid and reduce significant effects on drainage and water quality. Therefore, it is not anticipated that development of cumulative projects would result in significant cumulative effects on hydrology and water quality.

Air Quality

The proposed project and other projects in the area will result in temporary air quality impacts from construction-related activities and vehicle emissions. Such activities could result in substantial temporary emissions of particulate matter (PM_{10}, $PM_{2.5}$) and carbon monoxide (CO). Because air quality is defined by geographic formations (i.e., a coastal plain surrounded by mountains) and bears little relationship to jurisdictional boundaries, the cumulative impact analysis study area for air quality consists of the South Coast Air Basin. The projects known to be planned or approved, or in construction during the preparation of this SEIR, are summarized in Table 5-4 and are part of growth forecasts considered in regional air quality planning for purposes of evaluating long-term operational cumulative impacts.

SCAG and the South Coast Air Quality Management District prepared a regional air quality analysis as part of the 2008 Regional Transportation Plan (RTP). That analysis serves as a cumulative analysis of project impacts to regional air quality, because it incorporates all past, present and future planned development within the region. Currently the South Coast Air Basin is in non-attainment for ozone, PM_{10}, and $PM_{2.5}$; therefore, an existing cumulative ozone and PM_{10}/$PM_{2.5}$ air pollution issue exists within the South Coast Air Basin. The proposed project itself would generate emissions from vehicle trips that would not exceed thresholds and would not include any permanent stationary sources. As discussed in Section 5.2 in the SEIR, the proposed project would not induce population and/or employment growth and would therefore conform to the RTP. Therefore, the proposed project would not contribute in a cumulatively considerable manner to cumulative long-term air quality impacts, and impacts would be less than significant.

Climate Change

Changes in the global climate attributable to anthropogenic greenhouse gas emissions are cumulative effects of past, present, and future actions worldwide. While worldwide contributions of GHG emissions are expected to have environmental consequences, it is not possible to link particular changes to the environment of California to GHGs emitted from a particular source or location. However, when considering a project's contribution to impacts from climate change, it is possible to examine the quantity of GHG emissions that would be either directly or indirectly attributable to a project. An analysis of such project-level effects is presented in Section 4.12 of the SEIR.

Section 4.12 addresses the project's contribution to the cumulative effects of climate change based on guidance provided by the California Natural Resources Agency. As noted in Section 4.12 of the SEIR, since the project design features and mitigation measures identified for the

project would entirely offset the project's contribution to the cumulative effects of greenhouse gas emissions, the project's effects relative to greenhouse gas emissions and climate change are not cumulatively considerable.

Noise

As with the proposed project, cumulative projects would generate periodic increases in ambient noise levels in the project area during construction. Several cumulative projects in the surrounding area anticipate periodic noise levels in excess of established standards during construction, thereby exposing people and noise-sensitive receptors to these increased levels. Through mitigation measures, including conformance with construction noise restrictions through local ordinances, these cumulative short-term impacts will be reduced to below a level of significance. Potential long-term noise associated with the proposed project would be generated by both mobile and stationary sources. Although cumulative development of the project vicinity is anticipated to result in increases in noise levels within the City, the project's long-term operational traffic noise is anticipated to be nominal, and on-site stationary noise sources would be properly attenuated. Therefore, the project's contribution to a potentially significant cumulative long-term noise impact would not be cumulatively considerable and would be less than significant.

Public Services and Utilities

The proposed desalination facility may have impacts on wastewater facilities due to the potential discharge of byproduct wastes associated with facility operation utilizing OCSD facilities. However, the OCSD would require a commercial/industrial connection fee, of which 5% would go to the City. Impacts in this regard have been adequately analyzed in previous documentation, as the proposed project would be in compliance with all General Plan and Zoning designations. Cumulative impacts are not anticipated to be significant in this regard. As discussed in Section 4.6 in the SEIR, project-level impacts on other public services and utilities are less than significant and would not represent a cumulatively considerable contribution to any significant cumulative impacts.

Aesthetics/Light and Glare

Temporary construction impacts and facility operation would change the aesthetic character of the project site vicinity. The project site exists as a portion of a former fuel storage facility, with storage tanks 40 feet in height. The proposed project is expected to improve the overall aesthetic character of the site vicinity by replacing the storage tanks with multiple tilt-up buildings/structures. These structures would incorporate aesthetic enhancements (landscaping, screening, and aesthetically sensitive architecture) and are expected to enhance the overall aesthetic character of the site vicinity. In addition, the proposed desalination project may introduce new sources of lighting to the area. However, appropriate mitigation measures to prevent the occurrence of significant amounts of light spillover would be incorporated into site design. All structures associated with the proposed project would comply with City standards with regards to building height, densities, and landscaping. Additionally, several projects located within the cumulative impact study area include plans for parks recreational facilities construction and expansion, and/or on-site landscaping associated with development projects. These site design features and parks improvements will positively augment the area's existing scenic resources and improve the aesthetic character of the region. Therefore, when combined with current and reasonably foreseeable future projects, the proposed project would not generate cumulatively significant aesthetic impacts within the surrounding area.

Hazards and Hazardous Materials

The proposed project has positive public health and safety effects due to remediation of the former fuel storage tank facility. Cumulatively, other project sites that are constrained due to site

contamination would require remediation on a case-by-case basis, including the Magnolia Pacific Specific Plan, which plans to develop on the previous Ascon/Nesi Landfill; and the Edison Community Center (located at 21377 Magnolia Street, north of Hamilton Avenue and outside of the pipeline construction route), which would pursue mitigation for methane issues currently affecting the site. Remediation activities would be done in accordance with applicable health and safety regulations. The proposed project may have local impacts in regards to hazards and hazardous materials through various chemicals associated with facility operation. However, all hazardous materials would be used, stored, and transported according to all Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulations. Therefore, it is not anticipated that cumulative impacts related to hazards and hazardous materials would be significant.

Construction-Related Biological Resources (Terrestrial Only)
Implementation of the proposed off-site OC-44 underground booster pump station may have impacts on biological resources. The site is currently undeveloped and includes 0.5 acre of native vegetation known to support numerous species of wildlife and may include areas within the jurisdiction of the ACOE or CDFG according to Appendix B, Results of the Biological Constraints Survey for the OC-44 Underground Booster Pump Station Project Site, of the SEIR. Construction of the proposed pump station has the potential to impact biological resources. However, mitigation measures are included to ensure that avoidance of direct impacts is accomplished with final design (refer to Mitigation Measures CON-38 through CON-46 in Section 4.9, Construction in the SEIR). Once built, the pump station would be placed entirely underground and would be subject to development restrictions protecting the integrity of on-site biological resources.

Neither of the optional OC-44 underground booster pump station sites contains sensitive species or habitats, and neither has jurisdictional wetlands/waters. Therefore, the project would not have a substantial adverse effect on candidate, sensitive, or special-status species, nor would it affect any federally protected wetlands. Therefore impacts at the optional sites would be less than significant. Regulatory compliance during project construction would ensure that project-related construction activities would minimize cumulative impacts to less than significant levels. In addition, cumulative projects would undergo separate environmental review.

Construction-Related Traffic
As discussed in Section 4.9 of the SEIR, implementation of the proposed project may cause short-term, construction-related traffic impacts. The demolition, remediation, and construction process would generate traffic in the site vicinity through on-site construction worker vehicle trips and truck trips. Construction truck trips to and from the project site would utilize routes that would minimize impacts, and impacts would be further avoided and minimized through use of traffic control measures.

Pipeline construction for product water delivery would also require temporary disruption along public streets, as the majority of the pipeline is proposed to be installed within existing street right of way (ROW) utilizing open trench construction methods. Adequate staging areas would be provided for both open trench and trenchless construction in order to minimize the amount of traffic disruption. Pipeline construction may conflict with remediation activities at the Ascon landfill site. A Draft Interim Removal Measure Workplan for the landfill (California Department of Toxic Substance Control 2009) identifies the various routes of travel for trucks entering and exiting the landfill site. The proposed routes include Newland Street and Hamilton Street, both of which will involve construction of the proposed water delivery pipelines. It is anticipated that there will be overlap between construction of the pipelines and material hauling from the landfill. Both projects will be required to maintain traffic control plans, but coordination between the two

efforts will be important. With the possibility of simultaneous project construction and landfill remediation, there is the potential for significant impacts on traffic and circulation, and mitigation is required. With the mitigation measure identified in Section 4.9, localized impacts resulting from cumulative construction impacts of the project and the Ascon landfill remediation would be less than significant.

Since the timeframe for construction of the project and associated water delivery pipelines is relatively short, and since pipeline construction would proceed relatively quickly through each segment being constructed, it is not anticipated that a substantial increase in current traffic levels resulting from other cumulative development will occur prior to completion of project construction. Therefore, temporary traffic impacts associated with the project will cease prior to substantial cumulative traffic impacts being realized on local roadways. Therefore, the project is not anticipated to result in a cumulatively considerable contribution to any significant cumulative traffic impacts.

Construction-Related Cultural Resources
According to CEQA, the importance of cultural resources comes from their research value and the information that they contain. Therefore, the issue that must be explored in a cumulative analysis is the cumulative loss of information. For sites considered less than significant, the information is preserved through recordation and test excavations. Significant sites that are placed in open space easements avoid impacts to cultural resources and also preserve the data. Significant sites that are not placed within open space easements preserve the information through recordation, test excavations, and data recovery programs.

The cumulative impacts analysis for cultural resources considered the area surrounding the proposed desalination facility and off-site facilities, and specifically the projects listed in Table 5-4. Impacts to cultural resources related to cumulative development that occurs within the areas surrounding the desalination facility and associated off-site facilities could be significant if significant cultural resources are destroyed as a result of development. Section 4.9 of the SEIR provides a comprehensive summary of all potential project impacts to cultural resources, as a result of the records search, literature review, and field survey conducted for the proposed project. The project would not result in any significant impacts on cultural resources, and therefore would not represent a cumulatively considerable contribution to any significant cumulative impact.

Product Water Quality
The product water from the seawater desalination facility would be suitable for delivery through the existing water distribution system and would be comparable to and compatible with the other water sources currently delivering water to the same system (see Section 4.11, Product Water Quality in the SEIR). Thus, cumulative impacts would be less than significant.

Finding for Potential Regional Cumulative Impacts

The Seawater Desalination Project at Huntington Beach will not result in significant regional cumulative impacts. Less than significant impact.

Facts in Support of Finding

Projects that may result in regional cumulative impacts include existing and/or planned developments along the California coast that could exceed planned growth estimates, contribute to impacts to the Southern California Bight, and/or result in substantial demands on local power sources, resulting in additional water or air pollution. See Table 5-5 in the SEIR.

As discussed in Section 5.2 in the SEIR, the proposed project would not foster growth in excess of that already assumed and projected in pertinent planning documents. Moreover, existing water supply plans already project that seawater desalination would play a necessary role in meeting projected future demands. Accordingly, the growth-inducing impacts of the project are not significant. Each incremental development would be required to comply with the goals and policies of the applicable General Plan or other planning documents for the proposed project area. Thus, potential growth-inducing cumulative impacts would be less than significant.

Ocean Water Quality and Marine Biological Resources
The Southern California Bight is a region that includes coastal Southern California, the Channel Islands, and the local portion of the Pacific Ocean. The small portion of the Pacific Ocean that occupies this region, from Point Conception in the north to just past San Diego in the south, and extending offshore of San Nicolas Island, is the temporary or permanent home to a wide variety of marine organisms.

Impacting this coastal marine ecosystem are the millions of people who reside in the Los Angeles, Orange County and San Diego metropolitan areas, as well as the Mexican residents who inhabit the Tijuana/San Diego border region of the Bight. The tremendous population of Southern California, coupled with the activities necessary to sustain and/or enhance their existence, results in a significant quantity and variety of pollutants that enter coastal waters. The Pacific Ocean within the Southern California Bight area receives pollutants from a wide variety of sources. Most pollution within the Bight is derived from land, from water runoff after a rainfall event, from the outfall pipes of wastewater treatment facilities, or from the water discharges of electrical power plants. Such runoff can introduce a mix of industrial and organic pollutants to coastal waters. Additionally, substantial amounts of refuse also make their way into rivers or bays via roadway gutters. Harbor/port activities also contribute pollution to the Southern California Bight. Combined, the ports of Long Beach and Los Angeles compose one of the busiest port systems in the nation. Though stringent guidelines are in place to protect the coastal environment, pollution from ships, from the ports' terminals, and from the Los Angeles River is an ongoing problem. Discharge from the ballast tanks of ships, though illegal, does occur. Such vessels, arriving from distant ports of call, can introduce exotic species of plants and animals, causing disruption of the local food web. Discharges rich in nitrogen can generate the rapid growth of plankton, eventually leading to a condition known as red tide that is lethal to some coastal organisms.

Implementation of the proposed project may contribute to long-term impacts to water quality and marine biological sources. However, as stated in Section 4.10, Ocean Water Quality and Marine Biological Resources, in the SEIR, all potentially significant impacts to long-term water quality and marine biological sources would be reduced to less-than-significant levels through regulatory compliance, project design features, and implementation of the recommended mitigation measures pertaining to hydrology and water quality. The following discussion describes the potential for cumulative impacts to the Southern California Bight.

As discussed in Section 4.10 of the SEIR, oceanographers from the Scripps Institution of Oceanography conducted modeling simulating ocean conditions near the HBGS intake and outfall. The model calculates the degree of mixing of various potential contaminant sources with the Pacific Ocean. The Santa Ana River, Talbert Marsh, OCSD wastewater discharge outfall, and proposed desalination facility discharge were all investigated. Seawater contamination resulting from any of the above sources could potentially impact the quality of product water and, to some degree, the quality of byproduct concentrated seawater to be discharged from the HBGS outfall. The model results show the amount of dilution of each of these sources of

pollutants under different oceanographic conditions. The results of the model concluded that long-term water quality impacts to the Pacific Ocean would be less than significant. Additionally, the analysis concluded that the mixture of the proposed facility's concentrated seawater discharge with the HBGS cooling water discharge would not result in salinity increases that would significantly impact marine biological resources. The analysis to marine biological resources also concludes that plankton entrained in the discharge stream are likely to be killed as much by the turbulence and temperature of the discharge (which would occur even without proposed project implementation) as by the salinity increase. Thus, no significant increase in plankton loss is expected from the addition of the byproduct water to the discharge stream.

Since implementation of the proposed project would result in less than significant impacts to ocean water quality and marine life, the analysis of cumulative impacts must include an analysis of the expected environmental effects to be produced by other cumulative projects. As shown in Table 5-5 of the SEIR, 11, desalination facilities are currently being proposed along the Southern California coast that would contribute to cumulative impacts associated with the proposed project. Seawater desalination projects outside of Southern California (approximately 11 are proposed) have no potential to interact with the proposed project. Additionally, existing and proposed ports, wastewater treatment facilities, industrial uses, etc., along the coast would contribute to cumulative impacts. The proposed desalination facilities and other anthropogenic uses would be required to ensure that the objectives and goals defined in the California Ocean Plan and the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* are met on a project-by-project basis. These plans identify water quality goals and objectives that pertain to:

- Thermal characteristics (control of temperature in the coastal and interstate waters and enclosed bays and estuaries of California (Thermal Plan))
- Bacterial characteristics, physical characteristics (i.e., visible floating particulates, grease, oil, and discoloration)
- Chemical characteristics (i.e., dissolved oxygen concentration, pH, amounts of dissolved sulfide, nutrient materials, and other harmful substances)
- Biological characteristics (i.e., effects to marine communities, including vertebrate, invertebrate, and plant species)
- Radioactivity (radioactive waste discharge).

Because each proposed desalination facility would have unique design and siting characteristics, each is likely to be subject to a different set of California Coastal Act policies and would likely conform to those policies in different ways. Determining whether a proposed desalination project would conform to the California Coastal Act would therefore be done on a case-by-case basis.

The physical effect of desalting seawater by reverse osmosis is in principle no different than the effects of evaporation. Ocean surveys of the Southern California Bight have measured evaporative losses at 93.4 centimeters per year. The surface area of the coastal waters inside the continental margin of the Southern California Bight is approximately 160,000 square kilometers. Factoring in evaporation over the surface area, it is concluded that the coastal area of the Southern California Bight loses 1.49 by 10^{11} cubic meters of pure water constituent from the coastal ocean each year. In contrast, a desalination facility producing product water at a rate of 50 mgd will extract 6.9 by 10^{7} cubic meters of pure water constituent of water from the coastal ocean in 1 year's time. Consequently, it would take 2,163 desalination facilities the size of the

proposed project to match the natural evaporative losses from the ocean in the Southern California Bight.

The report Marine Biological Issues for the Huntington Beach Desalination Project and Other Desalination Facilities in the appendices of the SEIR contains an analysis and compilation of studies and information from currently operating desalination facilities around the world to determine the effects of elevated salinity levels. The study found that the Huntington Beach desalination facility's strategy of avoiding impacts by adequately diluting and dispersing the concentrated seawater is consistent with practices of other plants. Review of recently published information about the collective worldwide experience with the operation of large seawater desalination plants in Australia and at Tampa Bay (US) indicates a positive track record for minimizing the potential effects of seawater concentrate discharge.

An increased awareness of the environmental impact of discharging undiluted seawater concentrate into coastal waters has prompted monitoring studies of this effect in existing plants as well as increased attention to this issue in both the design and placement of desalination facilities. Prior experience shows that the discharge of concentrated seawater into shallow coastal areas that are not well ventilated by tidal or wind-driven circulation may cause elevation of coastal salinity and may affect the biota occurring in the discharge area. By contrast, in cases where the discharge is either diluted (as it is in the case of the Huntington Beach facility) or lessened by mixing with the receiving water, the effects are either reduced or are not present at all.

When viewed in conjunction with other proposed desalination facilities and anthropogenic uses planned for the Southern California coast, the potential degradation of marine biological resources and long-term water quality could be considered a negative cumulative impact. However, given the dispersion and physical distance from the proposed desalination facility to other Southern California desalination facilities, there would not be any overlapping impacts. Furthermore, the proposed project includes mitigation measures relevant to the preparation of a Water Quality Management Plan (WQMP), specifically identifying BMPs, a site-specific hydrology and hydraulic analysis, and installation of an on-site storm drainage system to ensure that long-term water quality impacts would be less than significant. Additionally, potential impacts of cumulative projects would be site–specific, and an evaluation of potential impacts would be conducted on a project-by-project basis. This would be especially true of those developments located in areas that contain sensitive species and habitat. Each incremental development would be required to comply with all applicable local, state, and federal regulations concerning the protection of biological resources and degradation of water quality. In consideration of these regulations, potential cumulative impacts upon ocean water quality and marine biological resources are considered less than significant under both co-located and stand-alone operating conditions for the project.

Related to this analysis is a cumulative effects analysis conducted by the SWRCB. At page 35 of the March 22, 2010, Draft Final Substitute Environmental Document prepared by the SWRCB for its proposed Water Control Policy on the use of Coastal and Estuarine Waters for Power Plant Cooling, the SWRCB examined the effects of continuation of the baseline conditions for once-through-cooling water intake by coastal power plants. The study found that cumulative impacts are especially important in the Southern California Bight where many power plants are situated within several miles from each other. The SWRCB noted a study performed by MBC and Tenera in 2005 which estimated that, for 12 coastal power plants in the Southern California Bight, there is an overall cumulative entrainment mortality of up to 1.4% of the larval fishes in the Bight. In the same study, for eleven coastal power plants in the same area, the estimated cumulative impingement was approximately 3.6 million fish. Considering only recreational fish

species, impingement was somewhere between 8% and 30% of the number of fish caught in the Southern California Bight. If the SWRCB policy is adopted and implemented as currently contemplated, these impacts would be expected to reduce over time.

Power Production
Information regarding power production is based upon the *Huntington Beach Desalination Project Report on Local and Regional Power Requirements and Generation Resources* (Navigant Consulting, Inc. 2004, Appendix G,, Local and Regional Electric Power Requirements and Generation Resources, to the SEIR). According to this report, the estimated load for the proposed project is 30 to 35 MW, and it is anticipated that it would be operating at this level unless the HBGS conducts its heat treatment process.

Southern California Edison (SCE) and other utilities routinely develop forecasts of electrical loads on their systems. Most times the publicly available information resulting from these forecasts is aggregated such that the only data available are that for the load served from the major substations or on a system-wide basis. The assessment of impacts to power production as a result of project implementation has been based upon the following:

- Extracted information on the estimated amounts of power delivered through each of SCE's major 230 and 115-kilovolt (kV) substations (SCE 2004).

- Information regarding the total peak loads on the systems of the Los Angeles Department of Water and Power (LADWP), the other municipal utilities in the Los Angeles Basin, and the Imperial Irrigation District (Navigant Consulting, Inc. 2002).

The SCE system in the Los Angeles Basin consists of:

- A 230 kV transmission network that delivers power to a number of 230/66 kV substations

- 66 kV lines that interconnect the 230 kV substations with numerous 66 kV substations from which the power is delivered to lower voltage facilities that ultimately serve the load.

Table 5-6 in the SEIR, contains information relative to the location of the 230 kV substations, as well as estimates of the amount of the total SCE load in Orange County, that is served from each substation. In addition to SCE substations listed in Table 5-6, the Lewis 230/66 kV Substation, located in Anaheim, serves the electrical load in the City of Anaheim.

The project load is anticipated to be as much as 35 megawatts starting in the fourth quarter of 2013. Table 5-8 in the SEIR presents information on the amounts by which the estimated loads summarized in Table 5-7 would increase when a 35-megawatt project load is added to them. Table 5-8 shows that the addition of the 35-megawatt project load would increase the demand for electric energy in the Huntington Beach area by approximately 9%. However, the impact of the addition of this load on the demand for electric energy in Orange County or Southern California is insignificant (less than 1%). Thus, impacts would be less than significant.

In addition, a report published by the National Resources Defense Council (NRDC) and Pacific Institute states that the California State Water Project is the single largest user of energy in California, utilizing 2% to 3% of all electricity consumed in the state (NRDC and Pacific Institute 2004). This electricity consumption is necessary to lift water 2,000 feet over the Tehachapi

Mountains (the highest lift of any water system in the world). Operation of the Colorado River Aqueduct adds to the electricity consumed in pumping water to Southern California.

As stated in Section 4.4, Air Quality, imported water and desalinated water require in excess of 3,000 kilowatt hours (kWh) per acre-foot for production and distribution. The energy required to import water is expected to remain fairly static, while the energy required to desalinate seawater is expected to continue to decrease. The proposed desalinated water has the potential to replace a given water provider's water curtailed from the State Water Project along the East Branch; then the power requirements to move imported water through the Central Valley, over the Tehachapi Mountains, and into the Los Angeles Basin could result in substantial power reductions, thus resulting in air quality offsets. Whereas the proposed facility under the co-located scenario has an "all in" power rate of 4,449 kWh per acre-foot for producing water and conveyance into the Orange County system, the State Water Project has a power rate of 3,200 kWh per acre-foot (net of hydroelectric power production in the Los Angeles Basin). As such, there is only a 1,249 kWh per acre foot increase (or an additional 194 megawatts per day) in energy consumption over current supplies into the MWD's Diemer water treatment facility. Under the stand-alone scenario, the facility would have a power rate of 4,776 kWh per acre-foot, which would result in an increase of 242 megawatts per day as compared to the energy used to import the same amount of water.

N. GROWTH-INDUCING IMPACTS *(SEIR pages 5-15 to 5-16)*

Section 5.2 of the SEIR addresses the project's potential growth-inducing impacts. Potential project-related growth-inducing impacts in Orange County are addressed in this Section. Potential indirect growth-inducing impacts outside of Orange County are addressed in Section 5.0-B of this Statement of Findings of Facts.

Finding for Potential Growth-Inducing Impacts

The Seawater Desalination Project at Huntington Beach will not result in project-related significant growth-inducing impacts in Orange County. Less than significant impact.

Facts in Support of Finding

As required under CEQA, Section 5.2 of the SEIR included a discussion of the ways in which the Seawater Desalination Project at Huntington Beach could be growth-inducing. The seawater desalination project would provide a new source of potable water supply (desalinated seawater) producing 50 million gallons per day (mgd), or 56,000 acre-feet per year, of potable water for ultimate use within Orange County. However, as described in Section 3.0, Project Description, the desalinated seawater would not be made directly available to end users. Instead, the project requires that the desalinated seawater produced by the seawater desalination project be delivered only to existing regional or local water purveyors in Orange County.

By August, 2010, in addition to an agreement through the OPA with the City of Huntington Beach, 17 retail water purveyors and MWDOC had each signed individual Letters of Intent indicating their conditional interest in entering purchase agreements with Poseidon to purchase specific amounts of desalinated seawater in each year that water is produced at the Seawater Desalination Project at Huntington Beach. Section 3.5 in the SEIR provides a list of the water purveyors that have signed a letter of Intent with Poseidon. Three additional agencies have indicated interest in purchasing water from the project. Because the entire 56,000 acre-feet of desalinated seawater to be produced by the project has been reserved, the growth-inducing

impact of the project would depend entirely upon how those regional or local water purveyors allocate the desalinated seawater produced by the project.

Neither CEQA nor the CEQA Guidelines provide a specific methodology for determining whether a project like the proposed project would have growth-inducing impacts. One methodology would be to assume a scenario in which water produced by the seawater desalination project was directed by regional and local water purveyors entirely toward fostering unplanned growth in Orange County. At 200-gallon-per-day per capita water use, the project could supply water to 250,000 additional people, or approximately 8% more than Orange County's 3,000,000 current residents. When the County's population exceeds 3,600,000 residents in 2035 (see Table 5-1 in the SEIR), the project would be able to serve approximately 7% of that projected population.

Allocating the project's water supply entirely toward fostering unplanned growth in Orange County is not realistic because existing water supply plans for Orange County identify desalinated seawater as one of the additional water sources already counted upon to meet the future supply needs for projected population increases. As set forth in Section 3.5, the Seawater Desalination Project at Huntington Beach provides a new source of supply to offset any imported water supply losses experienced by Orange County. Further, it is not anticipated that the purchase of water from a different supplier (Poseidon) by any of the affected water agencies would result in any changes to existing land use plans, growth projections or growth management policies of the local land use authorities within the respective service areas of those water agencies. Local water agencies purchase and deliver water to retail customers, and do not have direct authority over land use, and cannot approve or disapprove any changes in land use that would directly affect population projections.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population in excess of what is assumed in pertinent general plans, or in projections made by regional planning agencies. In consideration of population/housing projections within the Orange County and the recognized need (in Orange County water supply plans) for seawater desalination as a supply source, any impacts would be less than significant.

The Growth Assessment and General Plan Evaluation (see the appendices in the SEIR) examines planned growth in Orange County and demonstrates that the potential water supply from the Seawater Desalination Project at Huntington Beach is not currently being relied upon to serve any of the planned new development projects of 500 dwelling units for which water supplies have been confirmed. The project will not supply water in excess of what is already anticipated to meet future projected needs in Orange County. Therefore, the Project will not cause significant growth-inducing impacts in Orange County.

4.0 FINDINGS FOR SIGNIFICANT IMPACTS

The following issues were determined to be "less than significant with mitigation" as set forth in the SEIR. The City of Huntington Beach finds that these potentially significant adverse impacts can be mitigated to a level that is considered less than significant after implementation of the existing City development review requirements, standards, codes, and the mitigation measures identified in the SEIR. Mitigation measures are referenced in this Statement of Findings of Facts using the same numbering system employed in the Mitigation Monitoring Program and the

SEIR. Refer to the *MITIGATION MONITORING PROGRAM* for a complete listing of mitigation measures and monitoring requirements.

A. IMPACTS RELATED TO LAND USE/RELEVANT PLANING

Section 4.1 of the SEIR addresses the project's potential impacts related to land use/relevant planning. Those impacts are addressed in Section 3.0-A of this Statement of Findings of Facts.

B. IMPACTS RELATED TO GEOLOGY, SOILS, & SEISMICITY *(SEIR pages 4.2-1 to 4.2-16)*

Section 4.2 of the SEIR addresses the project's potential impacts related to geology, soils and seismicity. The SEIR addresses six topics, four of which are addressed in this Section. The remaining topics are addressed in Section 3.0-B of this Statement of Findings of Facts.

Finding for Wind/Water Erosion

The Seawater Desalination Project at Huntington Beach will not have significant impacts during operation of the project, but may create significant impacts in regards to wind and water erosion during construction. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including implementation of measures identified in the Erosion Control Plan to be submitted to the City's Department of Public Works with the grading permit (refer to Section 4.9, Construction-Related Impacts, in the SEIR for more detail) and mitigation measure HWQ-1. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.2 of the SEIR, the potential impacts related to wind and water erosion have been eliminated or substantially lessened to a level of less than significant by virtue of project design considerations, standard conditions and mitigation measure HWQ-1, all of which have been incorporated into the project. The site would be either landscaped or paved, thereby reducing the likelihood for long-term operational wind/water erosion impacts to less than significant levels. However, the project would involve construction processes possibly causing wind and water erosion to occur during grading activities. The project would be subject to standard erosion control practices as typically required by the City. Any potential temporary increase in wind/water erosion during construction would be reduced to less than significant levels with implementation of measures identified in the Erosion Control Plan to be submitted to the City's Department of Public Works with the grading permit. Any potential permanent increase in wind/water erosion would be reduced to less-than-significant levels with landscaping in areas not paved (refer to Figure 3-16, Conceptual Landscape Master Plan, in the SEIR). The proposed project will require a Water Quality Management Plan (WQMP) to minimize wind and water erosion impacts.

Finding for Geology/Soils

The Seawater Desalination Project at Huntington Beach may be subject to significant impacts resulting from unstable soils and shallow groundwater conditions in the vicinity of the project area. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including adherence to standard Uniform Building Codes (UBC) conditions and

incorporation of mitigation measures GEO-5 through GEO-9, inclusive. Less than significant impact with mitigation.

Facts in Support of Findings

As explained in Section 4.2 of the SEIR, the potential impacts related to geology/soils have been eliminated or substantially lessened to a level of less than significant by incorporation of mitigation measures. These mitigation measures include submitting a detailed geotechnical report, the submittal of application for a precise grading permit, approval of the geotechnical report by the City Engineer, all dewatering activities will be in compliance with NPDES regulations, compressible soils will be removed and recompacted or the use of piles or grade beams will be used to support on site structures, and type V cement will be used for concrete and buried metal pipes shall utilize special measure to protect against the effects of corrosive soils. With the incorporation of such measures, impacts related to unstable soils and shallow groundwater conditions will be rendered less than significant.

Finding for Seismicity/Faulting

The Seawater Desalination Project at Huntington Beach may be subject to significant hazards from seismicity and faulting. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including adherence to standard UBC conditions and incorporation of mitigation measures GEO-1 and GEO-4. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.2 of the SEIR, adequate measures shall be taken to protect building foundations and on site pipelines from the effects of seismicity and faulting. As a part of desalination operations, the operations staff would develop an earthquake mitigation and preparedness plan that would be coordinated with the local jurisdiction's preparedness activities. This plan would define coordination measures to ensure continuous facility operations and water delivery under earthquake emergency conditions. The proposed project and associated improvements, including an on site 66 kilovolt (kV) substation, would be constructed in compliance with the seismic safety requirements of the UBC and applicable CDMG publications. Given the site's proximity to the Newport-Inglewood and Compton Blind Thrust faults, more stringent design measures may be warranted or required, as determined by the site-specific geotechnical survey for the project. All structures would be designed in accordance with the seismic design requirements of the most recent edition of the UBC. The specific design provisions (e.g., wall and slab thickness, lateral bracing, structural configuration) for seismic enforcement would be developed during the design phase of this project. In addition, a detailed construction-level geotechnical study would be prepared during the design phase of the project. This report would include analysis regarding soil sampling and laboratory testing of materials to provide detailed recommendations for grading, chemical and fill properties, liquefaction and landscaping. The grading plan for the proposed project shall contain the recommendations of the final soils and geotechnical report. The recommendations shall be implemented in the design of the project, including but not limited to the measures associated with site preparation, fill placement, temporary shoring and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep foundations, concrete slabs and pavements, surface drainage, cement type and corrosion measures, erosion control, shoring, and internal bracing and plan review. With the incorporation of such measures, impacts related to seismicity and faulting will be less than significant.

Finding for Liquefaction Potential

The Seawater Desalination Project at Huntington Beach may be subject to significant hazards due to high liquefaction potential in the vicinity of the project site. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including adherence to standard UBC conditions and incorporation of mitigation measures GEO-5 through GEO-9, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.2 of the SEIR, adequate measures shall also be taken to protect against liquefaction, including compliance with all UBC standards and mitigation measures set forth in the SEIR. Soil layers susceptible to liquefaction were not determined to be continuous throughout the proposed desalination facility site. Liquefied soils may experience post-liquefaction settlements of 4 to 5 inches. Proposed on site, aboveground structures have the potential to experience post-liquefaction distress. In addition, the presence of liquefaction-prone soils and the location of the subject site relative to the Huntington Beach Channel pose a risk of seismically induced lateral spread. Substantial distress to both aboveground and underground structures would occur in the form of seismically induced landsliding. Therefore, along with compliance of UBC standards, a construction-level geotechnical study would be prepared for the proposed project site during the design phase of the project that would recommend design measures to mitigate liquefaction and lateral spread impacts such as: (1) over-excavation and recompaction of liquefaction/lateral spread-prone soils, (2) in situ soil densification, (3) injection grouting, or (4) deep soil mixing. The desalination facility project would be subject to the UBC and applicable CDMG publications in regard to liquefaction. With the incorporation of such measures, impacts related to liquefaction and lateral spreading will be less than significant.

C. IMPACTS RELATED TO HYDROLOGY, DRAINAGE AND STORMWATER RUNOFF (*SEIR pages 4.3-1 to 4.3-14)*

Section 4.3 of the SEIR addresses the project's potential impacts related to hydrology, drainage and stormwater runoff. Topics related to stormwater drainage capacity, degradation or violations of water quality standards or waste discharge requirements, and topics related to flood, seiche, tsunami, or mudflow hazards are addressed in this Section. The remaining topics are addressed in Section 3.0-C of this Statement of Findings of Facts

Finding for Stormwater Drainage Capacity

The Seawater Desalination Project at Huntington Beach would increase the amount of impervious area, thereby increasing surface runoff which may impact the stormwater drainage capacity for the site. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measures HWQ-1 and HWQ-2, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.3 of the SEIR, grading activities and development of the proposed project site are anticipated to increase the amount of impervious area, thereby increasing

surface runoff. In addition, existing interior containment berms (which contain stormwater on site) would be removed, and the exterior berms that border the site would remain in place. An on site local stormwater drainage system, designed pursuant to city requirements, would be implemented as part of the desalination facility site and product water storage tank. Stormwater flows would first be directed to catch basins by gravity and would then be directed to a stormwater pump via gravity lines. Stormwater would be tested for pollutants, and if necessary, treated using one of two sedimentation methods. Stormwater would be directed to the desalination facility's stormwater system. In addition, containment berms surrounding the western and northern side of the west tank site would be left in place, further containing stormwater on site. As alternative options, the desalination facility's on site stormwater system could discharge stormwater to the HBGS on site stormwater system or the City of Huntington Beach's local stormwater system, both of which ultimately convey stormwater to the Pacific Ocean via the HBGS outfall. No stormwater would be discharged into the adjacent Huntington Beach Channel. A WQMP would be completed for the proposed project as required by the RWQCB. Therefore, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. It would not contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm or provide substantial additional sources of polluted runoff. Therefore, impacts would be less than significant. Although no significant impacts have been identified, mitigation has been added to document standard requirements of the City of Huntington Beach that ensure adequate sizing and design of the stormwater drainage system, including water quality features.

Finding for Water Quality Degradation or Violations of Water Quality Standards/Waste Discharge Requirements

The Seawater Desalination Project at Huntington Beach is not anticipated to significantly degrade water quality or violate any water quality standards or waste discharge requirements. Regardless, changes or alterations have been required in, or incorporated into, the project that further avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measures HWQ-1 and HWQ-2, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As discussed in Section 4.3 of the SEIR, the proposed desalination project would incorporate both native and nonnative landscaping on site. Nonnative vegetation may require periodic fertilization and pest control. The use of fertilizers and pesticides would comply with City standards and Integrated Pest Management Policy and Guidelines Implementation, as well as the guidelines set forth in the Orange County Management Guidelines for such activities. Based on the size of the landscaped areas, the small amounts of fertilizers and pesticides needed, and the fact that the site landscape would be maintained per local and County of Orange standards, it is unlikely that use of these chemicals would be of environmental concern to the groundwater, adjacent ocean waters, or surrounding uses. The long-term use of fertilizers and pesticides is not anticipated to degrade water quality or result in a violation of water quality standards or waste discharge requirements; therefore, impacts would be less than significant. However, a Water Quality Management Plan (WQMP) would be prepared for the proposed project, which would identify applicable BMPs and control measures as identified within the countywide NPDES DAMP.

Stormwater shall be treated prior to off site discharge to minimize impacts from urban pollutants. The proposed project, as detailed within the SEIR will use either a waste filter backwash clarifier or a sedimentation in separate clarifiers. The most viable stormwater treatment alternative

would be selected during the design phase of the project, in close coordination with the City of Huntington Beach, RWQCB, and HBGS staff. The stormwater facilities would be designed to comply with all applicable requirements of the City of Huntington Beach and the RWQCB. In addition, stormwater runoff would not affect adjacent sensitive land uses since the subject site would retain its exterior berms and would be graded so that all on site stormwater would flow toward an on site local stormwater drainage system. The on site local stormwater drainage system that would be implemented as part of the proposed project would not have surface runoff discharge onto Pacific Coast Highway. The existing containment berms along the eastern, western, and southern boundaries of the subject site would remain, providing additional containment of any stormwater to the project site. Applicable BMPs to contain stormwater runoff would be implemented and the project would be in compliance with all standards as administered by the RWRCB and County of Orange.

The existing containment berm along the eastern border of the project site (to be left in place) would prevent direct spillage of product or by-product water onto the portion of wetlands situated to the east. The Huntington Beach Channel separates the proposed facility site from Newland Marsh, located northwest of the site. In the event of an accidental spill associated with proposed project operation of either product or by-product water, no significant effects would occur on the adjacent wetland/open space areas because water would not pass the physical separations. Soils of wetlands are already flooded by freshwater during the rainy season, forming standing pools. Product water spills would do the same. Soils are already hypersaline, so spills of by-product water would contribute little to the salinity of soils. Spills into the local Huntington Beach Channel are also likely to have minimal impact. The channel already has multiple year-round freshwater inputs, so product water spills would have a less than significant impact. By-product water spills would be diluted by these freshwater inputs. However, if the channel is mostly oceanic at the time of a spill, salinities may be overly elevated. Species likely to be found in the channel, such as topsmelt, can tolerate wide variations in salinity. In addition, the applicant has prepared a Spill Prevention and Response Plan (SPRP) for the Huntington Beach Seawater Desalination Facility to eliminate or minimize the potential for an accidental discharge of chemicals used at the desalination facility.

Although no significant impacts related to water quality are anticipated, the project would be subject to compliance with water quality measures imposed by the City of Huntington Beach, and a WQMP would be required to document compliance measures. Impacts would therefore be less than significant with mitigation.

Finding for Impacts Related to Flood, Seiche, Tsunami, or Mudflow Hazards

The Seawater Desalination Project at Huntington Beach is not anticipated to be significantly impacted by flooding, a seiche, tsunami, or mudflow hazards. Regardless, changes or alterations have been required in, or incorporated into, the project that further avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measures HWQ-3. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.3 of the SEIR, the proposed project site currently has a Federal Emergency Management Agency (FEMA) flood-zone designation of “X,” with protection from the 1% annual chance (100-year) or greater flood hazard by a levee system. The project would not place facilities within a 100-year flood hazard area that would expose people or structures to substantial risk, nor would it place structures that would substantially impede or redirect flood

flows. The project site and surrounding area is generally level and not prone to mudflow. The site is located within the moderate run-up tsunami area. Heights of the 100- and 500-year tsunamis along the coastal area of Huntington Beach are 5 feet and 7.5 feet, respectively. The proposed desalination facility site is at approximately 5 feet above mean sea level. Previous evaluations put the risk of tsunami for the City of Huntington Beach at very low. Although no significant impacts have been identified, a mitigation measure has been added that ensures planning measures have been prepared to minimize or reduce risks to property and human safety from tsunami during operation. There is a potential for seiches to impact the subject site because it is situated adjacent to the Huntington Beach Channel. The magnitude of seiche waves impacting the project site are anticipated to be lower than those of a tsunami, given the frictional energy dissipation of water running along the bottom and walls of the Huntington Beach Channel. In addition, given that the existing 10- to 15-foot-high containment berm along the eastern boundary of the project site would remain (running along the Huntington Beach Channel), the likelihood of seiches impacting the site is considered low (Poseidon Resources Corporation 2007a). Impacts would be less than significant.

D. IMPACTS RELATED TO AIR QUALITY *(SEIR pages 4.4-1 to 4.4-23)*

Section 4.4 of the SEIR addresses the project's potential impacts related to air quality. Those potential impacts are addressed in Section 3.0-D of this Statement of Findings of Facts.

E. IMPACTS RELATED TO NOISE *(SEIR pages 4.5-1 to 4.5-18)*

Section 4.5 of the SEIR addresses the project's potential impacts related to noise. Stationary noise sources are addressed in this Section; the remaining topics are addressed in Section 3.0-E of this Statement of Findings of Facts.

Finding for Stationary Noise Sources

The Seawater Desalination Project at Huntington Beach may create significant impacts to sensitive receptors adjacent to the desalination facility site from long-term stationary noise sources associated with project operation. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measure NOI-1. Less than significant impact with mitigation.

Facts in Support of Finding

As illustrated in Section 4.5 of the SEIR, under the co-located operating condition scenario the product water pumps would be located 350 feet away from the nearest sensitive receptors. However, these pumps would be located within an underground vault, which would provide attenuation. The seawater intake pumps would be the next closest to sensitive receptors, which are 700 feet west of the influent pump station. This pump station would not be located within an enclosure that would attenuate noise. The analysis also presents the combined noise levels from all pumps at the closest sensitive receptors in each direction from the project site. Sensitive receptors located to the west would experience noise levels of 59.9 dBA. When accounting for existing intervening structures (industrial buildings to the north), berms, and tanks (to the west), the anticipated noise levels would be further reduced. The City's applicable exterior noise standards are 55 dBA between 7:00 a.m. and 10:00 p.m., and 50 dBA between 10:00 p.m. and 7:00 a.m. Therefore, pump noise levels would be potentially significant.

Under the stand-alone operating condition, the primary operational components that would emit noise are the intake pump station, the RO system, the membrane cleaning system, and the product water pump station. The stand-alone operating condition involves use of two existing HBGS once-through cooling pumps, and the replacement of one existing HBGS pump (for a total of three additional duty pumps in comparison to the co-located operating condition). As depicted in the SEIR, sensitive receptors located to the west would experience noise levels of 61.3 dBA. When accounting for existing intervening structures (industrial buildings to the north), berms, and tanks (to the west), the anticipated noise levels would be further reduced. Background noise levels in the project area would be below the combined noise levels in as provided in Section 4.5 of the SEIR. Therefore, pump noise levels would also be potentially significant under the stand-alone operating condition.

Therefore, under either scenario, the implementation of Mitigation Measure NOI-1 would reduce the impact to less than significant by requiring the outdoor pump stations to be located within an enclosure designed to reduce noise levels by at least 20 dBA.

F. IMPACTS RELATED TO PUBLIC SERVICES AND UTILITIES *(SEIR pages 4.6-1 to 4.6-18)*

Section 4.6 of the SEIR addresses the project's potential impacts related to public services and utilities. Solid Waste is discussed in this Section. The remaining potential impacts are addressed in Section 3.0-F of this Statement of Findings of Facts.

Finding for Solid Waste

The Seawater Desalination Project at Huntington Beach will not have a significant impact related to solid waste. Regardless, in order to further reduce this potential impact to a less than significant impact, mitigation measures PSU-1 and PSU-2 have been incorporated into the analysis under Section 4.6 of the SEIR. Less than significant impact with mitigation.

Facts in Support of Finding

As discussed under Section 4.6 of the SEIR, the primary sources of solid waste from the project would consist of sludge generated as a result of the intake water pretreatment filtration and disposal of other wastes, such as filter cartridges and spent RO membranes. In addition, the office facilities on the site are expected to generate nominal amounts of office waste. All of these waste products qualify as refuse under the City of Huntington Beach's municipal code. Combined the sludge, spent filter cartridges, and spent RO membranes would equal approximately 2,425 tons of solid waste generated by the desalination process per year, roughly 0.06% of the solid waste sent to Orange County landfills in 2007. Orange County landfills have a combined remaining capacity of over 185,000,000 cubic yards, and therefore have sufficient permitted capacity to accommodate the project's solid waste disposal needs. Rainbow Disposal, the City's franchise municipal solid waste hauler, would service the project. The project applicant will comply with all applicable federal, state and local statutes and regulations related to solid waste handling, transport, and disposal. Therefore, no impact would occur relating to solid waste. Regardless, mitigation measures related to waste reduction and recycling were incorporated into the SEIR to further reduce these already less than significant impacts.

G. IMPACTS RELATED TO AESTHETICS/ VISUAL CHARACTER AND LIGHT AND GLARE (*SEIR pages 4.7-1 to 4.7-18)*

Section 4.7 of the SEIR addresses the project's potential impacts related to aesthetics/visual character and light and glare. Those potential impacts are addressed in this Section.

Finding for Aesthetics/Visual Character

The Seawater Desalination Project at Huntington Beach is not anticipated to create significant impacts to aesthetics or visual character. Regardless, mitigation measure ALG-1 has been incorporated into the SEIR to further reduce this already less than significant impact. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.7 of the SEIR, the project site is currently industrial in nature, containing large scale industrial tank facilities. The views of the site and views of scenic resources through the site would not be degraded or impaired because the proposed facilities are less visually obtrusive than the existing fuel oil storage tanks. No scenic resources, trees, rock outcroppings, or historic buildings are located on the site. Although Pacific Coast Highway is identified as being eligible for state scenic highway status, it is not so designated. In the event Pacific Coast Highway were to be designated in the future as a scenic highway, impacts would be less than significant as there are no mature trees, rock outcroppings, community identification symbols, or landmarks that would be impacted due to project implementation. The project site is currently industrial in nature and proposed facilities would generally be less visually obtrusive than the existing fuel storage tanks. Project components would not exceed 35 feet in height and would replace existing structures that are up to 40 feet in height. Project components would be set back from Newland Street and Edison Avenue and separated from the street by landscaping and streetscape improvements. The project will result in a decrease in shading as the proposed structures would not exceed 30 feet in height in comparison to the existing structures, which are 40 feet in height.

The project would generally improve visual conditions on the project site and would not substantially degrade the existing visual character or quality of the site and its surroundings. However, design features have been identified that will provide assurances that the visual character of the site is maintained and enhanced per the design requirements of the City of Huntington Beach. Although impacts are less than significant, design standards would be implemented through the City's design review process, and a mitigation measure (ALG-1) has been added to the SEIR to address visual required screening.

Finding for Light and Glare

The Seawater Desalination Project at Huntington Beach is not anticipated to create significant impacts related to light and glare. Regardless, mitigation measure ALG-2 has been incorporated into the SEIR to further reduce this already less than significant impact. Less than significant impact with mitigation.

Facts in Support of Finding

As addressed in Section 4.7 of the SEIR, the project components are located in an urbanized area that includes existing light sources. The project would result in the removal of existing light sources (light fixtures mounted on poles and on the existing fuel storage tanks) and introduce new light sources for the operational use of the desalination facility, 66 kV substation and product water storage tank. Any new lighting would be subject to City design standards and would utilize directional lighting techniques and low-wattage bulbs (without compromising site

safety or security) in order to direct light downwards and minimize light spillover into adjacent land uses, such as the mobile home park located to the west, and wetland areas to the southeast. Given the existing industrial nature of the area, the amount of lighting would not substantially increase compared to the existing condition for nearby sensitive receptors.

Project implementation and vehicles utilizing the facility may also result in a minimal amount of additional reflective surfaces on proposed structures. However, the resulting glare effects would be relatively minor when compared to existing levels of glare in the site vicinity. And while water transmission pipeline facilities would also be constructed adjacent to residential uses within the right-of-way, they would be located underground.

As discussed above, the project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Although this impact is less than significant, design standards would be implemented through the City's design review process, and a mitigation measure (ALG-2) has been added to require a lighting plan that will be approved by the City.

H. IMPACTS RELATED TO HAZARDS AND HAZARDOUS MATERIALS *(SEIR pages 4.8-1 to 4.8-18)*

Section 4.8 of the SEIR addresses the project's potential impacts related to hazards and hazardous materials. Those potential impacts are addressed in Section 3.0-H of this Statement of Findings of Facts.

I. IMPACTS RELATED TO CONSTRUCTION (*SEIR pages 4.9-1 to 4.9-64)*

Section 4.9 of the SEIR addresses the project's potential construction related impacts All of the potential construction related impacts are addressed in this Section, except for air quality. Potential short-term construction related impacts regarding air quality are addressed in Section 5.0-A of this Statement of Findings of Facts.

Finding for Hydrology and Water Quality

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to hydrology and water quality. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-1 through CON-9, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to hydrology and water quality have been eliminated or substantially lessened to a level of less than significant by appropriate project design features and through incorporation of mitigation measures CON-1 through CON-9.

Excavation, grading, and backfilling associated with project implementation are anticipated to generate erosive conditions that may include sediment laden storm run-off or dust. As part of the NPDES process, the project would comply with the State of California general permit and would include the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and

associated source control and/or treatment control BMPs that would avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable."

The Municipal NPDES Permit differs from the Construction General NPDES Permit in that it regulates stormwater runoff from sites and activities following construction, as opposed to during construction activities. This Municipal NPDES Permit requires that discharges from the Municipal Separate Storm Sewer Systems (MS4s) shall not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) for surface waters or groundwaters. The DAMP and its components shall be designed to achieve compliance with receiving water limitations. It is expected that compliance with receiving water limitations will be achieved through an iterative process and the application of increasingly more effective BMPs.

Dewatering activities due to excavation at the proposed desalination facility site are not anticipated to have significant impacts in regards to hydrogeology and water quality. Dewatering discharge would be directed to a desilting system, and would be sampled and tested periodically to ensure compliance with all regulations. Should contaminated groundwater be encountered, a remediation contractor would remediate the groundwater prior to discharge into the sanitary sewer system, subject to a permit from Orange County Sanitation District, or HBGS stormwater system. The dewatering operations will have no impacts on nearby wetlands, flood channel and landfill site because of the limited radius of influence of the various dewatering systems planned to be used for the proposed project. While potential impacts to nearby wetlands and structures are highly unlikely, a monitoring well system will be installed and operated for the duration of the desalination facility construction period in order to ascertain that construction activities do not have any measurable impacts on groundwater quality or levels outside of the boundaries of the desalination facility site. Groundwater conditions would return to existing levels subsequent to the dewatering process, and the project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge or seawater intrusion barriers.

Compliance with NPDES permit requirements and implementation of BMPs and the Standard Specifications for Public Works Construction "Greenbook," which include such measures as use of sand bags and temporary dam building, may be applied to sufficiently reduce sediment laden storm run-off. Additionally, area watering and limiting excavation, backfilling and grading activities to non-windy days would sufficiently control the amount of particulate matter that may migrate off-site. Existing regulations require preparation and implementation of a SWPPP and a City Precise Grading permit would be required. Any potential construction dewatering would be subject to the De Minimus Threat General Permit conditions. The City of Huntington Beach LIP also requires that all construction projects, regardless of size or priority, implement stormwater BMPs that shall include, at a minimum, erosion and sediment controls. The potential for erosion is considered a significant impact, and mitigation measures are identified to reduce erosion impacts to less than significant levels.

Finding for Noise

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to noise. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measure CON-15. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to noise have been eliminated or substantially lessened to a level of less than significant by appropriate project design features and through incorporation of mitigation measures CON-15. In order to estimate the "worst case" construction noise levels that may occur at an existing noise-sensitive receptor, the SEIR combined construction equipment noise levels have been calculated for the demolition, grading, trenching, paving, and building phases. As indicated in detail within Section 4.9, the anticipated short-term construction noise levels generated during demolition, grading, trenching, paving, and building activities would not expose adjacent receptors to significant interior noise levels. Thus, construction noise associated with the proposed project would not expose surrounding sensitive receptors to substantial noise levels during construction. Noise sensitive receptors in proximity to the desalination facility site (i.e., residential, school, and park uses) would not experience excessive noise levels during construction activities. Noise associated with construction of the water supply pipelines would be short-term, and the forward progression of construction activities would mean that the noise impact may last for only two to three days at any one location. Construction of the booster pump stations is not expected to result in substantial noise levels, as the equipment used to construct these project components would not generate significant noise levels. The City provides exemptions for construction activities from the provisions of the Noise Ordinance in Section 8.40.090, *Special Provisions*, provided that they take place between the hours of 7:00 AM and 8:00 PM weekdays and Saturdays. Implementation of mitigation measure CON-14 would further minimize any impacts from construction noise and would ensure that impacts would be less than significant.

Construction activities would also cause increased noise along access routes to and from the site due to movement of equipment and workers. Construction worker commute trips would be a maximum of approximately 225 trips per day. All construction traffic would utilize Newland Street to access the project site. With a maximum number of construction trips anticipated to be approximately 225 trips per day, construction related traffic would under a worse-case scenario increase traffic volumes by less than 5% from existing traffic volumes. Given a less than 5% increase in traffic along heavily traveled roadways from construction traffic, the anticipated construction trips would result in a less than one dB Ldn increase. Therefore, surrounding uses would not notice a substantial increase in traffic noise from construction trips due to the existing high volume of traffic and trucks traveling along roadways. Also, construction activities would take place during allowable daytime hours (7:00 AM to 8:00 PM), would be short-term, and would cease upon project completion. Therefore, impacts would be less than significant.

As the nearest sensitive residential receptor to construction activities associated with the on-site desalination facility would be located 285 feet to the west, ground vibrations from project construction activities would not exceed the FRA groundborne vibration threshold of 72 VdB for residential land uses. Additionally, structures directly surrounding the project site (at a distance of 80 feet) consist of industrial buildings. These industrial buildings are expected to be structurally sufficient to withstand potential vibration from construction activities. Consequently, impacts would be less than significant.

The project would include construction of a new water supply pipeline extending from the project site northerly into the City of Huntington Beach, City of Fountain Valley, City of Garden Grove, City of Westminster and City of Santa Ana and unincorporated areas of Orange County, and easterly into the City of Costa Mesa. A number of alignment options have been identified to provide flexibility in alignment selection and to ensure that all potential alignment segments are analyzed in the SEIR. Although the SEIR includes project level environmental analysis of

several potential alignment options, only one of the potential alignment options will be constructed as part of the project. Based on typical construction equipment used for pipeline construction, the primary noise sources would include excavators, backhoes, loaders, dump trucks, cranes, welders, crew and delivery trucks, water trucks, and roller compactors. Based on the forward progression of construction activities the noise impact may last for only two to three days at any one location. The construction activities would comply with the local jurisdictions' noise ordinance for allowable hours. Because the project will be required to comply with construction noise restrictions and would be short in duration, it is not anticipated that excavation and installation of the pipelines using open trench installation methods would result in a significant noise impact, based on the applicable significance criteria. The closest residences have existing sound walls that attenuate noise from the roadway, and would serve to also attenuate construction noise. It is not anticipated that the construction noise would exceed the existing ambient traffic noise in these locations. In addition, the construction noise would be restricted based on the requirements of the local jurisdiction relative to construction noise and would therefore not exceed established standards. Therefore, the noise impact is not anticipated to be significant.

Finding for Underground Utilities

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to underground utilities. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions and incorporation of mitigation measure CON-16. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to public services and utilities have been eliminated or substantially lessened to a level of less than significant by standard conditions and through incorporation of mitigation measure CON-16. The demolition, remediation, and construction process for implementation of both on- and off-site components of the proposed project is not anticipated to result in impacts to public services. However, the proposed project (especially the installation of product water pipeline) may impact utilities in regards to damage or disruption of underground facilities such as water/sewer pipelines, electrical conduits, underground cable television or telephone wiring, and natural gas mains. Therefore, in order to mitigate impacts to public services and utilities, the project engineer shall perform geophysical surveys to identify subsurface utilities and structures, the findings of which shall be incorporated into site design. Pipelines or conduits which may be encountered within the excavation and graded areas shall either be relocated or be cut and plugged according to the applicable code requirements.

Finding for Aesthetics/Light and Glare

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to aesthetics/light and glare. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-17 and CON-18. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to aesthetics/ light and glare have been eliminated or substantially lessened to a level of less than significant by appropriate project design features and through incorporation of mitigation measures CON-17 and CON-18. Demolition, remediation, and construction debris, associated mechanical equipment and high levels of truck traffic may adversely impact views of and across the project site, including the pipeline alignment and underground pump station locations. However, these impacts would not be considered significant, as they would be limited in scope and duration. Standard construction measures such as chain link fencing and nylon mesh would be utilized to screen the staging and construction areas from surrounding areas and the general public at the proposed desalination project site and underground pump station sites. In addition, a staging area for equipment associated with the demolition, remediation, and construction process would be situated within HBGS property boundaries. Substantial sources of light and glare would not be produced by construction activities, because most construction would occur during the day and any night lighting would be limited, and focused directly on the construction area, minimizing light spill into surrounding areas. Therefore, construction activities are not anticipated to result in significant impacts related to aesthetics or lighting.

Finding for Hazards and Hazardous Materials

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to hazards and hazardous materials. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-19 through CON-33, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to hazards and hazardous materials have been eliminated or substantially lessened to a level of less than significant by standard conditions, appropriate project design features and through incorporation of mitigation measures CON-19 through CON-33, inclusive. Construction workers could be at risk for remediation activities tied to cleaning the site as needed. However, site remediation activities are strictly controlled by local, state, and federal requirements and the majority of contamination in the vicinity of the proposed desalination project site is petroleum-based (which is not considered “toxic” or acutely hazardous). Should development over a plugged/abandoned well be necessary, the well would be plugged or re-plugged in accordance with current Division of Oil, Gas and Geothermal Resources (DOGGR) specifications.

Implementation of the water transmission pipeline portion of the project may create potential impacts due to landfill gas generation (particularly methane) from the former Cannery Street Landfill. Both pipeline alignment alternatives would pass directly south of the former landfill within Hamilton Avenue. However, pipeline construction in the vicinity of the former Cannery Street landfill would comply with all local, state, and federal regulations in regards to landfill gas. Standard construction practices would be implemented to determine the potential for landfill gas and, if deemed necessary, appropriate gas detection, venting, and/or barrier system would be implemented to reduce impacts to less-than-significant levels. In addition, potential groundwater contamination beneath the subject site may pose a short-term health threat to on-site workers and adjacent land uses during dewatering operations. Groundwater pumped from the project site would be continually monitored for pollutants, and if detected, would be treated prior to discharge to the sanitary sewer system or stormwater facilities. As dewatering operations would

meet all federal, State and local criteria for groundwater contaminants, impacts would be less than significant.

Demolition of existing on-site fuel oil storage tanks may expose persons to ACMs and/or lead-based paint. Existing tanks on site are constructed with a layer of insulation that contains asbestos. The proposed project is not expected to present significant health hazards, as carefully controlled removal operations would comply with the Remedial Action Plan and all applicable federal, state, county, and local regulations and measures. A licensed asbestos/lead abatement contractor would be retained to remove the hazardous materials prior to the demolition of any structures. All ACMs would be removed in accordance with SCAQMD Rule 1403.

Finding for Traffic

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to traffic. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-34 through CON-39, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, potential short-term construction related impacts in regards to traffic have been eliminated or substantially lessened to a level of less than significant by standard conditions, appropriate project design features and through incorporation of mitigation measures CON-34 through CON-39, inclusive. Construction within roadways will require temporary lane closures for trenching, construction staging and equipment maneuvering. The demolition, remediation and construction process would generate traffic in the site vicinity through on-site construction worker vehicle trips and truck trips. These activities have the potential to result in significant short-term impacts related to traffic congestion and traffic safety. However, a Traffic Management Plan (TMP) would be prepared for the demolition, remediation and construction phases of the proposed project in order to mitigate these short-term impacts to less than significant levels. The TMP would be prepared for the pipeline implementation phase of the proposed project in order to minimize traffic impacts and minimize the potential to interfere with emergency response due to pipeline implementation, such as the use of plating to reopen travel lanes during peak traffic hours as well as maintaining access to businesses and residences.

Pipeline construction for product water delivery would require temporary disruption along public streets, as the majority of the pipeline is proposed to be installed within existing street right-of-way (ROW) utilizing open trench construction methods. Trenchless construction methods would be utilized to cross roadways sensitive to traffic disruption, such as Brookhurst Street and SR-55. Adequate staging areas would be provided for both open trench and trenchless construction in order to minimize the amount of traffic disruption. Furthermore, traffic impacts are not anticipated to occur upon implementation of the underground booster pump stations, as the pump station sites are proposed to occur outside of public streets, and would not require the closure of, or impede access to any roadways. Therefore, impacts would be less than significant.

Finding for Biological Resources

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to biological resources. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-40 through CON-48, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.9 of the SEIR, construction of the proposed desalination facility would not directly impact any sensitive species or habitat, including the existing wetland area situated to the southeast of the proposed site, as the facility is proposed entirely within the existing fuel oil storage tank area. In addition, the site does not contain any wetlands under federal or state jurisdiction, and is not within an approved Habitat Conservation Plan or Natural Community Conservation Plan reserve area, and does not contain sensitive biological resources protected under the City's Local Coastal Program. The site is also not part of a wildlife movement or linkage area, and does not serve as a wildlife nursery site. However, construction-related impacts have the potential to occur indirectly on nearby sensitive habitat areas in regards to air quality, noise, light/glare, and stormwater runoff. Construction impacts would be short-term in nature and would cease following completion of the project. Construction at the desalination facility would only occur during the hours allowed by the City of Huntington Beach Noise Ordinance (7:00 AM to 8:00 PM). Upon adherence to construction standards administered by the City of Huntington Beach, and upon implementation of recommended mitigation measures, impacts to special-status species or sensitive habitats in the nearby wetland area are not anticipated to be significant.

Similar to the proposed desalination facility, construction of the offsite water conveyance pipelines would not directly impact any sensitive species or habitats, because they are proposed entirely within existing roadways and disturbed areas. In addition, the pipeline alignments are not within any wetlands under federal or state jurisdiction, and are not within an approved Habitat Conservation Plan or Natural Community Conservation Plan reserve area, and do not contain sensitive biological resources protected under the City's Local Coastal Program, or any other local resource protection policies. The pipeline alignments do not function as wildlife movement or linkage areas, and do not serve as wildlife nursery sites. However, construction of the pipelines using trenchless construction techniques that cross under potentially jurisdictional water features may result in impacts due to "frac-outs" potentially occurring during pipeline construction. "Frac-outs" occur when drilling fluids (usually bentonite) seep to the surface via cracks in the ground. A Frac-out Contingency Plan has been prepared to establish operational procedures and responsibilities for the prevention, containment and clean-up of frac-outs associated with trenchless construction activities.

Construction of the proposed OC-44 underground booster pump station has the potential to impact biological resources, as the 0.5-acre site contains native vegetation known to support numerous species of wildlife. However, siting and design options for the pump station are available to avoid direct impacts on sensitive biological resources and jurisdictional wetlands/waters. Because a final design and configuration has not yet been developed, mitigation measures are included to ensure that avoidance of direct impacts is accomplished with final design. According to the 1995 County of Orange Central & Coastal Subregion Natural Community Conservation Plan & Habitat Conservation Plan (NCCP/HCP), the OC-44 pump station would be located within the NCCP/HCP area; however, it would not be situated within or

near a designated “special linkage” area. The nearest “special linkage” area to the proposed underground booster pump station site is the Coyote Landfill Special Linkage area, situated approximately 2,000 feet to the east. The El Capitan Special Linkage Area is located approximately one mile to the south. Implementation of the proposed off-site underground pump station is not anticipated to impact either of these “special linkage” areas. In addition, the underground pump station site would be situated adjacent to an urbanized area. Therefore, construction at the OC-44 pump station site would not interfere substantially with wildlife movement, and impacts would be less than significant.

The OC-35 pump station and the Coastal Junction pump station would not directly impact any sensitive species or habitats. The sites do not contain any wetlands under federal or state jurisdiction, and is not within an approved Habitat Conservation Plan or Natural Community Conservation Plan reserve area, and does not contain sensitive biological resources protected under local resource protection policies. The site does not function as wildlife movement or linkage areas, and does not serve as wildlife nursery sites. No impacts to biological resources are anticipated.

Finding for Cultural Resources

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts in regards to cultural resources. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-49 through CON-52. Less than significant impact with mitigation.

Facts in Support of Finding

As discussed under Section 4.9 regarding cultural resources, numerous archaeological studies have been conducted within a mile radius of the proposed site. No cultural or paleontological resources have been identified on the project site. No monitoring of excavations for the project is recommended; however, if such resources are discovered during construction, a qualified Archaeologist or Paleontologist must be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. Additionally, since nearby fossil localities produced small vertebrate remains that cannot be readily seen during normal monitoring activities, it is recommended that adequate sediment samples be collected and processed to determine the potential for small fossils being present in these sediments. A mitigation program must include the provision of the preparation and identification of any recovered fossils in order to ensure specimens are sent to an accredited museum for permanent storage and future retrieval by qualified paleontologists. No historical or archaeological resources are known to exist within or surrounding the proposed booster pump station sites, impacts are not anticipated to be significant. However, should buried historical/archaeological resources be discovered during construction, all work in that area would be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

However, as the OC-44 pump station site and the two optional pump station locations are underlain by sediments deposited during the middle Miocene period, there is a high potential for the existence of middle Miocene invertebrate fossils and lower potential for middle Miocene vertebrate and Pleistocene vertebrate/invertebrate fossils. Project excavations that would remove more than five feet of material must be monitored by a qualified Paleontologist. The paleontological monitor must be empowered to halt or divert construction equipment from the immediate vicinity of the find in order to allow for evaluation and removal (if warranted) of the

discovery. Additionally, due to nearby fossil localities produced small vertebrate remains that cannot be readily seen during normal monitoring activities, it is recommended that adequate sediment samples be collected and processed to determine the potential for small fossil being present in these sediments. A mitigation program must include the provision of the preparation and identification of any recovered fossils in order to ensure specimens are sent to an accredited museum for permanent storage and future retrieval by qualified paleontologists. With the implementation of recommended mitigation measures, impacts to paleontological resources are not expected to be significant.

J. IMPACTS RELATED TO OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES (*SEIR pages 4.10-1 to 4.10-68*)

Section 4.10 of the SEIR addresses the project's potential impacts related to ocean water quality and marine biological resources. Those potential impacts are addressed in Section 3.0-J of this Statement of Findings of Facts.

K. IMPACTS RELATED TO PRODUCT WATER QUALITY (*SEIR pages 4.11-1 to 4.11-28)*

Section 4.11 of the SEIR addresses the project's potential impacts related to product water quality. Those potential impacts are addressed in this Section.

Finding for Product Water Quality

The proposed desalination project product water quality may be impacted by several factors, including ocean water quality fluctuations, red tide algal bloom events, HBGS non-routine operations and RO membrane performance. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measures PW-1 through PW-3, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

The product water of the proposed seawater desalination facility may be impacted by natural changes in ocean water salinity, temperature, turbidity and pathogen concentration. Typically, ocean water salinity and temperature changes are triggered by natural seasonal events. As discussed in Section 4.10, the intake ocean water turbidity and pathogen concentration changes are mainly driven by rain events.

In order to maintain a consistent quality of desalinated product water, the applicant would be required to obtain a drinking water permit from the California Department of Public Health (DPH) that would address monitoring of source water quality and its effects on product water quality. The applicant has been working with DHS for the last four years to obtain such a permit. In August 2002, DHS issued a conceptual approval letter for the Seawater Desalination Project at Huntington Beach.

The desalination facility intake water quality in terms of turbidity (which is a surrogate indicator for potential elevated pathogen content) and salinity would be measured automatically and monitored continuously at the desalination facility intake. Instrumentation for continuous monitoring and recording of these parameters would be installed at the desalination facility intake pump station. In event of excessive increase in intake seawater turbidity and/or salinity,

this instrumentation would trigger alarms that would notify desalination facility staff. If the intake pathogen count reaches a preset maximum level, this instrumentation would automatically trigger chlorination of the source water, thereby reducing the source water pathogens to acceptable levels even before the water reaches the RO treatment facilities**.** In addition to the automation provisions, turbidity and salinity would also be measured manually by the desalination staff at least once a day and the intake seawater would be analyzed for pathogen content at least once per week. In the event of elevated intake seawater turbidity, laboratory pathogen content analysis would be performed more frequently.

In addition to the intake water quality monitoring instrumentation, the desalination facility pretreatment filtration facilities would be equipped with filter effluent turbid meters and particle counters. This equipment would allow facility operators to continuously monitor pretreatment filter performance and to trigger adjustments of desalination facility operations to accommodate intake water quality changes.

Desalinated product water quality would also be monitored continuously for salinity and chlorine residuals and would be tested frequently for pathogen content.

In summary, desalinated product water quality would be tested in accordance with the requirements of the California Code of Regulations (Title 22) and the DHS. Product water quality impacts due to ocean water quality fluctuations are not anticipated to occur upon implementation of the design features described above.

The desalination facility would be designed to maintain high quality potable water (consistent with regulatory standards) in the event of a red tide event. As explained in Section 4.11 of the SEIR, it would have a number of provisions/barriers to protect against the passage of red tide-related algal organic compounds through the treatment processes. These include a deep intake configuration to minimize algae entrainment, the chlorination of intake seawater, an enhanced coagulation of intake seawater, a microfiltration or dual media sand filtration algae barrier, microfiltration or dual media sand filter covers, a cartridge filter algae barrier, the RO membranes, a final disinfection, and an emergency facility shutdown procedure. Also, there are no documented cases of red tide health or safety problems associated with the operation of RO seawater desalination facilities worldwide which is indicative of the capability of these systems to perform reliably and effectively under red tide conditions.

Unusual activities at the HBGS, such as seawater emergency intake pump shut downs and failures, electricity equipment malfunctions, excessively high temperature of the cooling water, etc., may impact product water quality and desalination facility performance.

The Seawater Desalination Project at Huntington Beach would have six different provisions incorporating several protection/notification devices to account for non-routine operations at the HBGS:

- Automatic Control Interlock between HBGS Pumps and Desalination Facility Intake Pumps: The shutdown controls of the desalination facility intake pumps would be interlocked with the HBGS pumps, so when HBGS pump operation is discontinued to prepare for heat treatment, non-routine or even routine pump shutdown, this would automatically trigger an alarm at the desalination facility along with shutdown of the desalination intake pumps. After this emergency shutdown, the intake pumps would have to be started up manually, and the operations staff would be required to check the reason of shutdown with the HBGS staff before restarting the treatment facility intake pumps.

- Continuous Intake Pump Flow Measurement Devices: Seawater intake pumps would be equipped with flow meters, which would record the pumped flow continuously. If the intake flow is discontinued for any reason, including non-routine HBGS operations, this would trigger automatic intake pump shutdown.

- Continuous Intake Water Temperature Measurement Devices: The desalination facility intake pump station would be equipped with instrumentation for continuous measurement of the intake temperature. Any fluctuations of the intake temperature outside preset normal limits would trigger alarm and intake pump shutdown. This monitoring equipment would provide additional protection against heat treatment or other unusual intake water quality conditions.

- Continuous Intake Water Salinity/Conductivity Measurement Devices: The desalination facility intake pump station would be equipped with instrumentation for continuous measurement of the intake seawater salinity. Any fluctuations of the intake salinity outside preset normal operational limits would trigger an alarm and initiate intake pump shutdown. This monitoring equipment would provide additional protection against discharge of unusual fresh water/surface water streams in the facility outfall.

- Continuous Intake Water Oil Spill/Leak Detection Monitoring Devices: The desalination facility intake pump station would be equipped with instrumentation for oil spill/leak detection. Detection of oil in the intake water even in concentrations lower than 0.5 mg/L would automatically trigger an alarm and initiate intake pump shutdown. This monitoring equipment would provide additional protection against unusual intake water quality conditions.

- Routine Communication with HBGS Staff: The desalination facility staff of each shift would be required to contact HBGS personnel at least once per shift and inquire about unusual planned or unplanned events at the HBGS. If non-routine operations are planned at the HBGS, the desalination facility would be informed and would modify desalination facility operations accordingly.

Implementation of the provisions described above would minimize impacts in this regard to less than significant levels.

As the RO membrane elements age, their rejection capabilities decrease. This may trigger a change in product water quality from the Seawater Desalination Project at Huntington Beach.

The RO system membrane performance would continuously monitor feed seawater and permeate conductivity and the differential pressure through the membranes. If permeate salinity (i.e. total dissolved solids [TDS]) concentration exceeds the design level, membranes would be cleaned to recover their original performance capabilities. In addition, after the third year of operations, an average of 10 to 15 percent of the membrane elements would be replaced every year, thereby maintaining the product water quality at a steady level.

The Seawater Desalination Project at Huntington Beach would produce product water with lower TDS levels than that currently delivered to Orange County water purveyors by MWD. The TDS product water quality estimate of 350 mg/L is based on the use of high-rejection seawater desalination membranes at the second year of desalination facility operations. Typically, during the first two years of facility operations, the average product water quality TDS concentration would be lower than 350 mg/L. After the second year of operations, a portion (typically 10 to 15

percent per year) of the desalination facility membrane elements would be replaced to maintain the product water quality close to the target TDS concentration of 350 mg/L. Membrane replacement is a standard approach commonly used in seawater desalination facilities to maintain product water quality at a long-term steady target level. In addition, chloride and sodium are estimated to average 180 mg/L and 120 mg/L, respectively.

These estimated water quality levels for TDS, chloride, and sodium are well below the newly adopted narrative water quality objectives in the amended Basin Plan and when the desalinated water is integrated into the water supply system it is unlikely that recycled water would exceed the amended Basin Plan narrative water quality objectives.

The desalination facility would use industry standard eight-inch desalination membrane elements, which are available from a number of specialized membrane manufacturers. The membrane element manufacturers and their products pre-qualified for this project are:

- Hydranautics
- Filmtec/Dow
- Koch/Fluid Systems
- Toray

Key design membrane element parameters common for the products of these suppliers are:

- Membrane Type: Spiral-wound, thin film composite;
- Applied Flux: eight to 12 gpd/sf at recovery rate of 45 to 50 percent;
- Nominal Salt Rejection: 99.6 percent or higher;
- Applied Pressure: 800 to 1,100 pounds per square inch (psi);
- Maximum Pressure Drop per Element: 10 psi;
- Maximum Feed Water SDI (15 min): 5.0;
- Free Chlorine Resistance: less than 0.1 mg/L;
- Operating pH Range: two to 11; and
- QA/QC Membrane Production and Testing Procedures.

The actual membrane element that would be used for the proposed desalination facility would be selected during the detailed engineering design phase of this project. The product water projections are performed for two conditions: new membranes at facility start up and membranes at the second year of facility operations. All projections are completed for low flow scenario conditions in terms of intake water salinity and temperature and membrane performance characteristics.

At the beginning of the desalination facility operation the TDS concentration of the RO system permeate is projected to be between 226 and 308 mg/L, and at the end of the second year of desalination facility operations is projected to be between 257 and 349 mg/L (based on projections of product water quality and membrane performance in accordance with modeling specifications provided by two of the four membrane suppliers, Toray and Hydranautics). As previously indicated, the permeate water quality would be maintained at a second-year operations level over the entire 30-year period of facility operations by replacement of a portion of the membrane elements every year. It should be noted that the projections above are for the water quality of the RO system permeate as it exits the desalination system. Prior to distribution, the desalination facility permeate would be conditioned by calcite and carbon dioxide for stabilization and corrosion control, and with chlorine for final disinfection. The addition of these conditioning chemicals would increase the final product water TDS concentration by 30 to 50 mg/L. Therefore, at facility start-up the TDS of the product water

delivered to the distribution system is expected to be in a range of 260 to 340 mg/L, while for the entire 30-year period of facility operations the TDS concentration would be in a range of 300 to 400 mg/L and would average 350 mg/L.

The projections presented above are developed using conservative assumptions for the type and performance of the membrane elements, intake water salinity and temperature. The applicant's previous pilot testing experience in Tampa and Carlsbad and the actual performance of the same Toray membranes in Trinidad indicate that the membrane manufacturer projections carry a safety factor of 10 to 15 percent and the actual product water quality is always better than that projected by the software.

Advances in membrane technology over the next 30 years are expected to yield membrane elements capable of producing water of TDS concentration below 300 mg/L for most of the useful life of the desalination facility. Therefore, the projected product water TDS concentration of 350 mg/L is a reliable and conservative estimate of the potable water quality that would be delivered to the distribution system by the Seawater Desalination Project at Huntington Beach.

As described in Section 3.0 of the SEIR, the facility would be capable of meeting all drinking water standards through multiple treatment processes, which include: pretreatment filters; cartridge filters; reverse osmosis membranes; and product water conditioning and disinfection facilities. The desalination facility product water quality meets all current DHS water quality MCL standards. The project would also be consistent with all requirements of the SARWQCB Basin Plan. Thus, impacts in this regard would not be significant.

As explained in Section 4.11 of the SEIR, boron is the only compound that is detectable in the product drinking water from the seawater desalination facility. After the RO treatment process, the desalted water boron level is approximately 0.6–1.0 mg/L, which is below the CDPH action level. Impacts to the product water quality are less than significant.

Finding for Product Water Reliability

The proposed desalination project product water reliability may be impacted by earthquakes or other unscheduled outages. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measure PW-4. Less than significant impact with mitigation.

Facts in Support of Finding

As discussed in the SEIR, the desalination facility operations would be fully automated and key systems would be provided with redundant equipment and controls per the requirements of Title 22 of the CCR. The electrical substation and desalination facility will be built with redundant systems such that in the event of equipment repair or failure, power to the product water pump station will be maintained. The product water storage tank will supply approximately 5 hours of water supply at full facility production capacity flows, and longer durations at reduced flow. In the event of an underground booster pump station power outage, the booster pump station would be equipped with on-site power generators that would allow their operation to continue even if the main source of power supply has been interrupted. The desalination facility would be manned 24 hours per day, 365 days per year by skilled and certified operators, which would coordinate facility and pump station operations with that of all other water purveyors delivering water to or operating the water distribution system facilities.

As a part of desalination and pumping station operations, the operations staff would develop an earthquake mitigation and preparedness plan, which would be coordinated with the City. This plan would define coordination measures to provide continuous facility operations and water delivery under earthquake emergency conditions, if possible.

The desalination facility would be designed with one standby RO train to provide additional reliability of water production and supply. Typically, desalination facilities, including the existing desalination facilities in California, are designed to operate with all available RO trains in operation at all times. During the times of potential outages caused by scheduled or unscheduled maintenance or emergency events, such as an earthquake, these facilities operate at reduced capacity or are down for a certain period of time. The proposed desalination facility would be designed to produce 50 MGD of product water with 13 RO trains, and it would be constructed with an additional 14th RO standby train, which can produce up to 4.2 MGD of water at any time. This additional train would provide increased reliability and redundancy that exceeds current reliability standards and common practices for desalination facility design.
The issues of reliability of the supply and emergency service provisions would be dictated by the terms of the institutional agreements negotiated with the regional water purveyors (including Municipal Water District of Orange County (MWDOC) and MWD) and by the terms of the water supply agreements negotiated with potential customers that would purchase the product water produced at the desalination facility. Thus, impacts would be less than significant.

The project is comprised of a water production and treatment facility and all environmental effects of construction and operation of the facility are fully addressed and analyzed in this SEIR. Additionally, the project would not create additional demand for water supplies, and is proposed as a replacement water supply facility, as more fully discussed in Sections 3 and 6 of this SEIR. Therefore, the project would not result in significant adverse effects on water supply.

Finding for Orange County Water Distribution System

The introduction of the proposed desalination project product water into the existing Orange County distribution system may result in impacts in regards to blended water quality, corrosivity, chlorine residual, disinfection byproduct concentration, taste and odor or hydraulics. However, changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including project design features and incorporation of mitigation measures PW-5 through PW-8, inclusive. Less than significant impact with mitigation.

Facts in Support of Finding

As explained in Section 4.11 of the SEIR, due to distribution system operations at certain points in the system, desalinated water may blend with other source waters, such as local groundwater or imported water from the MWD. This blending could improve blended water quality, especially if the receiving agencies are predominantly using imported water, which has higher levels of TDS, sulfate, hardness, and disinfection byproducts than desalinated water. The desalination facility would produce drinking water of very high and consistent quality, which meets or exceeds all applicable regulatory requirements established by the EPA and the CDPH.

The desalinated water would have approximately 100 mg/L lower total dissolved solids (TDS) than the existing drinking water supplies. The lower drinking water salinity would result in better taste and lower overall water distribution system corrosivity. The desalinated seawater would be softer than the existing water sources. Softer water has a number of benefits, such as better taste, formation of less calcium deposits on household appliances and cutlery, and lower

detergent use. Commercial and industrial establishments that currently use softening devices to treat the potable water would also benefit from introduction of the softer desalinated water in the distribution system, as their softening costs may be reduced and some of these users may not need to soften their water anymore (most industrial users typically require water with a hardness below 80 mg/L—as desalinated water would reduce hardness by at least 50%, softening costs would also be reduced commensurately). Similar to TDS, drinking water of lower sulfate consternation would have a better taste. The desalinated water would have order-of-magnitude lower disinfection byproducts, such as total trihalomethanes and halocetic acids (or TTHMs and HAAs, respectively) concentrations than the existing drinking water. Disinfection byproducts are well known carcinogens and their reduction in the drinking water as a result of the blending of the desalinated water with other water sources would be an added benefit. As such, the blending of desalinated product water with existing imported MWD water is not anticipated to result in significant impacts.

Blending the desalinated product water with existing water from other sources may change the water quality of the blend in terms of its corrosive effect on the existing water distribution system. When evaluating potential short-term and long-term impacts of blending treated waters from different sources, one of the most important considerations is the potential for corrosion of pipes and residential fixtures. Excessive corrosion over time might lead to colored water in homes, stained fixtures, pipe failures, and non-compliance with the Lead and Copper Rule. The limits for lead and copper are 15 ⌈g/L (micrograms per liter) and 1.3 mg/L, respectively.

Similar to all other potable water sources in the distribution system, product water from the Seawater Desalination Project at Huntington Beach would be chemically conditioned at the treatment facility prior to delivery to the distribution system to mitigate its corrosivity. Calcite, in combination with carbon dioxide, would be added for post-treatment stabilization of the RO water as a source for pH and alkalinity adjustment and hardness addition. A corrosion control study describing in detail the type and amount of corrosion control chemicals planned to be used for this project are presented in the Appendix T of the SEIR. The product water from the seawater desalination facility would be suitable for delivery through the existing water distribution system and would be comparable and compatible to the other water sources currently delivering water to the same system. Prior to delivery to the water distribution system, the desalinated water would be conditioned using calcite and carbon dioxide to achieve the following corrosion control driven water quality parameters, which are known to be consistent with water currently distributed throughout Orange County:

- pH of 8 to 8.5
- Langelier Saturation Index (LSI) of 0.0 to 0.5
- Alkalinity of 40 mg/L or higher.

These water goals are established based on current practices of the MWD, MWDOC, and most water agencies and municipalities in Orange County. The water goals are rooted in the Safe Drinking Water Act's water quality standards. These water quality goals would be achieved by the addition of the following chemicals:

- Calcite dissolution to achieve alkalinity and calcium concentrations of 60 to 80 mg/L as $CaCO_3$
- Carbon dioxide at dosage of 0 to 30 mg/L (average of 6 mg/L).

Adopting this proven corrosion control strategy would result in a non-corrosive product that can be seamlessly integrated into the system.

A corrosion pilot study was conducted and published in conjunction with the development of the Carlsbad Seawater Desalination Facility. This study evaluated the corrosion behavior of fully conditioned and disinfected desalinated seawater and blends of desalinated seawater and treated imported surface water from MWD. The pilot tested several types of plumbing materials, including common distribution system piping and appurtenances and household plumbing materials (lined steel, copper, lead, etc.). The pilot distribution systems were operated to simulate the flow patterns that might be experience in a typical household. No significant regulatory or aesthetic water quality impacts were observed during the extended pilot testing. In fact, observed metal concentrations in the pilot distribution system were found to be lower when using desalinated seawater than compared to treated surface water.

A similar distribution system corrosion pilot study was conducted by the Water Research Foundation and West Basin Municipal Water District at a seawater desalination pilot facility located in El Segundo, CA. Similar and comparable results were observed, thus confirming the results of the corrosion testing. Lower concentrations of regulated metals and other metals associated with household plumbing were observed in pipe sections that received desalinated seawater in comparison to those that received treated imported water. Most oxic groundwater, excepting groundwater sources that are impacted by reducing conditions (for instance those that have iron and manganese or sulfides), is naturally non-corrosive because it is in equilibrium with aquifer materials and has relatively high natural alkalinity. Properly operated typical groundwater wells and properly operated and treated groundwater wells which require treatment do not result in corrosive potable water for distribution. Therefore groundwater and blends of groundwater with treated surface water and treated desalinated seawater are also not expected to be corrosive and not result in corrosion-related water quality compliance issues in the distribution system. In addition, a corrosion monitoring system would be installed in the proposed transmission pipeline at points of interconnection with the existing water distribution system to ensure that the proposed corrosion control measures are effective and adequate. As such, impacts in regards to corrosion are not anticipated to be significant upon implementation of the design features.

The desalinated product water would be disinfected prior to delivery to the distribution system. Chlorine, in the form of sodium hypochlorite, would be added as a disinfectant to meet CDPH water quality standards for potable water disinfection. The desalted water would meet current imported water disinfection methods so as to not change any disinfection protocol currently being used by water agencies. Controlling biological growth in the transmission pipelines and in the receiving reservoirs in the distribution system would be accomplished by adding ammonia to the chlorinated water to form chloramines. Potable water from MWD, as well as that from some local groundwater sources, also contains chloramines as the final residual disinfectant. All of these treated water sources would have compatible chlorine residuals.

The desalinated water would be chloraminated by sequential application of sodium hypochlorite and ammonia to achieve a chloramine residual concentration at the point of delivery to the distribution system in a range of 2 to 2.5 mg/L. A detailed description of the proposed chloramination process is provided in Appendix S, Disinfection Byproduct Formation Study. This study confirms that after blending of the chloraminated product water from the desalination facility with disinfected product water from other sources, the chloramine residual of the blend meets the target level in the distribution system of 2 to 2.5 mg/L. The pilot distribution system pilot tests demonstrated that chlorine residuals in desalinated seawater persisted as long as

chlorine residuals in treated imported water. As such, impacts in this regard are not anticipated to be significant.

The desalinated product water may impact the content of disinfection byproducts (known to be carcinogenic) of existing water sources within the distribution system. The two key groups of regulated disinfection byproducts that can be impacted are TTHMs and HHAs. The desalinated water typically has higher concentration of bromides than the other water sources. Bromides may create additional disinfection byproducts. Therefore, when blended with other source waters, the desalinated water may increase the concentration of disinfection byproducts in the other sources. On the other hand, the existing water sources in Orange County typically contain much higher level of organics than the desalinated water, which is practically void of organics. Organics are also a potential source of disinfection byproducts. Therefore, blending of desalinated water with other water sources may have a positive impact on water sources with high organic concentrations.

Blending desalinated water with existing sources of supply would result in a product that is comparable to existing supplies and meets all disinfection byproduct limits. Desalinated seawater contains lower levels of organics than existing Orange County sources, such as the MWD's Diemer filtration facility and all other local groundwater water sources. Therefore, blending of desalinated water with other source waters in the distribution system would have a beneficial effect, and it would lower the overall disinfection byproduct concentration of the blend. The results of Appendix S, Disinfection Byproduct Formation Study, confirm the beneficial effect of the desalinated water on the blended water quality in terms of disinfection byproducts. As such, impacts in this regard are not anticipated to be significant.

No measurable impact on odor is expected as a result of the integration of the desalinated water with water from other sources in the distribution system. The desalinated water would be softer and would have lower salinity than the other water sources. Therefore, blending of these sources would result in an overall reduction of the salinity and hardness of the water delivered to the customers. Lower salinity and hardness of the blended product water would be beneficial and would have a positive effect on the taste of the water delivered to the customers.

As shown in the SEIR, the projected quality of the project water after RO treatment is closely comparable with the finished water it would blend with in the distribution system. In terms of odor, the desalination facility product water would meet the CDPH MCL. In terms of regulated volatile organics, and other compounds that may impact product water taste and odor, product water from the Seawater Desalination Project at Huntington Beach would comply with all drinking water standards and does not differ substantially from the water quality of the other sources of product water in the distribution system. Therefore, the desalinated water would be better than or equal to existing water sources in the distribution system in terms of taste and odor. With pores ranging from 0.00005 to 0.0000002 microns (for comparison, a human hair is 200 microns in diameter) the RO membranes would retain and remove over 99.5% of the seawater salinity and over 99% of the metals and organics, which may cause undesirable taste and odor of the product water.

A taste test conducted by the San Diego County Water Authority evaluated the ability of consumers to detect changes in the taste of blends of desalinated seawater and treated imported water. Results of the taste test showed that consumers could not distinguish between a range of calcium alkalinity addition, and could not detect the differences between any of the blends of supplies. To protect against potential taste and odor problems associated with the startup of facility operations, just prior to startup, a sequential flushing program would be coordinated with the involved water agencies to minimize any sediment disturbance that might

occur due to flow reversal in a portion of the existing distribution system. A flushing program would minimize any aesthetic issues that might be created through flow reversal. In addition, a sampling location would be established near the physical connection of the transmission pipeline to the OC-44 feeder. A monitoring program would be implemented for this location incorporating the following parameters: coliform bacteria, heterotrophic bacteria, chlorine residual, disinfection byproducts, and aesthetic parameters such as turbidity, odor, and color, as well as corrosion indices. The purpose of this sampling point is to verify on a regular basis that no degradation of water quality has occurred during any period of storage at the facility site or in the transmission pipeline and that mixing of desalinated water with water from other sources continues to be compatible.

Desalinated seawater has unique water quality and can cause several changes in the water quality of treated wastewater used for recycled water irrigation. Because desalinated seawater has lower concentrations of total dissolved solids and hardness, which will reduce the use of water softeners, recycled water will have lower concentrations of these constituents compared to recycled water derived from groundwater and surface water. However, desalinated seawater has slightly higher concentrations of sodium, chloride, and boron, and these constituents have the potential to exhibit higher concentrations in recycled water than would otherwise be observed using other sources of supply. Irrigation practices in Orange County, particularly the ability to irrigate turf grass and the ability to grow strawberries and avocados, are sensitive to recycled water quality. If the water quality balance between sodium and calcium exceeds well-known thresholds (as reflected by the SAR or sodium adsorption ratio), then it becomes difficult to infiltrate soil with irrigation water. For crops, exceeding water quality thresholds can cause reductions in yield and has aesthetic impacts (leaf burn).

A mass-balance model was developed to determine the water quality of those supplies, the fraction of water softener use, and the relative sources of supply that influence or are tributary to a wastewater/recycling facility. Recycled water quality was determined to be the source of supply distribution changes, as a function of seasonal variations in water supply (based on historical and predicted flows). Changes in water quality were shown to be minimal during the summer as flows and demands from sources other than the seawater desalination facility increased. Winter water quality demonstrated increases in sodium, chloride, and boron concentrations, but these increases remained within the same range of impact in agricultural criteria (such as SAR and threshold chloride concentrations) as before the introduction of desalinated seawater. Irrigators and farmers manage the current impacts of recycled water on turf grass and crops through the use of irrigation flow pattern and management techniques, and through the use of soil amendments to maintain productivity and permeability. The use of desalinated seawater will not significantly change the impacts to recycled water irrigation that is currently experienced without using desalinated supplies. It is expected that the current use of softener will decrease with the introduction of desalinated water and that resulting water quality and economic benefits of softer water will accrue to the region.

Implementation of the proposed project may have hydraulic impacts on the regional water distribution system. A total of three new pump stations and modification to an additional existing pump station would be necessary for operation of the project: 1) a product water pump station at the desalination facility site, 2) the OC-44 underground booster pump station in Newport Beach, and 3) the Coastal Junction underground booster pump station in Irvine; and 4) modifications to the existing OC-35 pump station would also be required. The product water delivery system includes several existing transmission mains:

- OC-44 Transmission Line

- East Orange County Feeder #2 (EOCF #2)
- Irvine Cross Feeder
- Orange County Feeder Extension
- Coastal Supply Line
- Aufdenkamp Transmission Main
- Joint (formerly Tri-Cities) Transmission Main
- West Orange County Water Board Feeder 1
- West Orange County Water Board Feeder 2

The Pressure Surge Analysis in the appendix provides a discussion of potential impacts of the four pump stations associated with the project, and evaluates potential effects of potential pressure changes associated with the proposed pump stations on the existing water delivery system. The results of the pressure surge analysis of the product water delivery system show that the most significant hydraulic transient events will result from a loss of power to the booster pump stations. Power failures are typically unpredictable and will therefore occur at the booster pump stations at irregular intervals. Following a loss of power the pumps, there will be a rapid drop in both the flow rate and discharge pressure combined with a rapid increase in the suction pressure at the booster pump stations. The results of the power failure simulations for the system show that traveling low-pressure (i.e., pressure drop) waves will be created on the discharge side of each of the booster pump stations by the drop in pressure. Simultaneously, a pressure upsurge wave is created on the suction side of each booster pump station following pump power failure. These high and low pressure waves will propagate out from the booster pump stations and into the suction and discharge pipelines, respectively, toward the demand locations and other booster pump stations.

The maximum hydraulic grade line (HGL) elevation that results from the upsurge created by a loss of power to the OC-44 booster pump station is predicted to exceed the set point HGL of the pressure relief valve on the OC-44 Transmission Main. The opening of the pressure relief valve creates a pressure drop wave that is predicted to drop the minimum HGL elevation sufficiently to create vapor pressure in both the proposed project water delivery pipelines and OC-44 Transmission Main. Similarly, a pressure upsurge wave created by the Coastal Junction Booster Pump Station will propagate from EOCF#2 into the Irvine Cross Feeder and Orange County Feeder Extension, and is predicted to exceed the maximum allowable HGL in the Irvine Cross Feeder as well as the set point HGL elevation for the pressure relief valve on the Orange County Feeder Extension. The opening of the Orange County Feeder Extension pressure relief valve also generates a significant pressure drop wave that is predicted to create vapor pressure in the pipeline. Vapor pressure conditions are also predicted in the Irvine Cross Feeder and Joint Transmission Mains following loss of power to the booster pump stations.

The duration of the low pressure will be long enough for vapor cavities to form in the pipelines. Upon re-pressurization of the pipelines by water hammer wave reflections, any vapor cavities that form will collapse and in the process produce very large magnitude positive pressures that could damage the pipelines and possibly create premature leaks. When subjected to negative pressures, a leak may become a source of pathogen intrusion. If the pipelines do not have sufficient strength, they may collapse under the large magnitude negative pressures associated

with vapor pressure. In addition, the combination air and vacuum relief valves installed on the existing transmission mains are predicted to close suddenly upon re-pressurization of the pipeline, which could damage the floats and create additional adverse pressures in the product water delivery system.

To eliminate large negative pressures and the possibility of vapor cavity formation in the delivery pipeline system above, surge protection measures, including installation of pressurized surge tanks are incorporated into the project design for the product water pump station and the OC-44 booster pump station, as described in Section 3.4 in the SEIR.

In addition to the proposed surge tanks, additional hydraulic modifications would be needed for the existing water distribution system have been incorporated into the project in order to avoid potential effects related to pressure surges and to facilitate product water delivery. These modifications are described in Section 3.4 of the SEIR, and in detail in the appendices, and generally include valves, bypass structures, and other minor modifications on the following transmission mains:

- OC-44 Transmission Line
- East Orange County Feeder #2 (EOCF #2)
- Irvine Cross Feeder
- Aufdenkamp Transmission Main
- Joint (formerly Tri-Cities) Transmission Main
- West Orange County Water Board Feeder 2

Additional modeling would be performed during the design phase of the project because the specific design and specifications for the booster pump stations is not fully developed at this time, and the surge analysis modeling is sensitive to the specific design and configuration of pumps and valves. However, it is not anticipated that substantial modifications would be required to achieve the level of protection to existing water transmission facilities that is proposed with the proposed project features. With the proposed project design features as described in Section 3.4 and Appendix V, no significant impacts to existing water facilities would result, and no water quality impacts from potential damage to facilities is anticipated.

L. IMPACTS RELATED TO CLIMATE CHANGE (*SEIR pages 4.12-1 to 4.11-34)*

Section 4.12 of the SEIR addresses the project's potential impacts related to climate change. Those potential impacts are addressed in Section 3.0-L of this Statement of Findings of Facts.

5.0 ENVIRONMENTAL EFFECTS WHICH WOULD REMAIN SIGNIFICANT AND UNAVOIDABLE AFTER MITIGATION

A. CONSTRUCTION RELATED AIR QUALITY IMPACTS (*SEIR pages 4.9-1 to 4.9-64 and pages 5-24 to 5-25)*

Section 4.9 of the SEIR addresses the project's potential short-term construction related air quality impacts. Section 5.3 (at pages 5-24 to 5-25) of the SEIR addresses the project's

potential cumulative short-term construction related air quality impacts. Those potential impacts are addressed in this Section. The remaining construction related topics are addressed in Section 4.0-I of this Statement of Findings of Facts. The remaining cumulative impact related topics are addressed in Section 3.0-M of this Statement of Findings of Facts.

Finding for Short-Term Air Quality

The proposed Seawater Desalination Project at Huntington Beach may have adverse short-term construction related impacts, both individually and cumulatively, in regards to air quality. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the potential significant environmental effects identified in the SEIR, including standard conditions, project design features and incorporation of mitigation measures CON-10 through CON-14. In addition, the South Coast Air Quality Management District and California Air Resources Board have jurisdiction over stationary and mobile emission sources, respectively. Even after incorporation of mitigation measures CON-10 to CON-14, the Project will result in unavoidable significant impacts, both individually and cumulatively, in regards to short-term construction related reactive gases including NO_x, PM_{10}, and $PM_{2.5}$. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible additional mitigation measures or alternatives identified in the SEIR. The City of Huntington Beach is adopting the Statement of Overriding Considerations set forth in Section 7.0 of this Statement of Findings and Facts to address the individual and cumulative, short-term construction air quality impacts of the project.

Facts in Support of Finding

The project proposes the demolition of three fuel oil storage tanks and construction of a seawater desalination facility. See Section 4.9 regarding the types of equipment anticipated for such a project. The SEIR found that short-term construction emissions would have impacts that would be significant and unavoidable for NO_X during construction for 27 months. Section 4.9 also determined exhaust emissions from construction activities including emissions associated with the transport of machinery and supplies to and from the on-site desalination facility, emissions produced on site as the equipment is used, and emissions from trucks transporting materials to and from the site would create a significant impact related to NO_X. Despite implementation of the recommended mitigation measures, overall aggregate emissions would exceed the SCAQMD standards for NO_X. Further, an LST analysis found that during construction of the proposed project, significant construction-related emissions for PM_{10} and $PM_{2.5}$ would occur, despite the incorporation of all feasible mitigation. Thus, construction related air emissions would be significant and unavoidable. Section 4.9 of the SEIR found that fugitive dust would be mitigated by implementing dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, limiting vehicle speeds, track out requirements, etc.).

Section 4.9 of the SEIR also determined the highest concentration of ROG emissions would be generated during the application of architectural coatings on the building. As required by law, all architectural coatings for the proposed project would comply with SCAQMD Regulation XI, Rule 1113 – *Architectural Coating,* listed in the SCAQMD Rules and Regulations. Rule 1113 provides specifications on painting practices as well as the ROG contents within paints used for within the District. In addition, mitigation measure CON-13 requires the use of high-pressure-low-volume paint applicators with a minimum transfer efficiency of at least 50 percent, using pre-painted materials, and buildings utilizing materials that do not require painting. Project

construction would not result in an exceedance of ROG emissions with implementation of mitigation measure CON-13, and impacts would therefore be less than significant.

Project construction would result in emissions of diesel particulate from heavy construction equipment and trucks accessing the site. Diesel particulate is characterized as a toxic air contaminant by the State of California. The Office of Environmental Health Hazard Assessment has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure, but has not identified health effects due to short-term exposure to diesel exhaust. Due to the temporary nature of project construction, and because the project would not generate significant diesel emissions from construction equipment or trucks (as indicated in the LST analysis above), the project would not result in a significant health risk.

Cumulative Short-Term Air Quality Impacts
As discussed under Section 5.3 regarding cumulative projects, because construction air quality impacts can tend to have a noticeable localized effect in addition to their contribution to the overall regional air basin, projects in close proximity to the proposed project site were evaluated for short-term, construction-related impacts. The pollutants generated from construction of these projects could result in an impact on ambient air quality that would overlap with those of the proposed project if the construction work occurs in close proximity and at the same time. Potentially significant and unmitigable short-term, construction-related impacts were identified that would contribute to potentially significant cumulative impacts. Therefore, short-term, construction-related air quality impacts, including the project's contribution to those impacts, are considered significant.

B. IMPACTS RELATED TO INDIRECT GROWTH-INDUCEMENT OUTSIDE OF ORANGE COUNTY (*SEIR page 5-16)*

Section 5.2 of the SEIR addresses the project's potential for growth inducement. The project's potential for indirect growth inducement outside of Orange County is addressed in this Section. All other project-related growth inducing impacts are addressed in Section 3.0-N of this Statement of Findings of Facts.

Finding for Indirect Growth-Inducement Outside of Orange County

The proposed Seawater Desalination Project at Huntington Beach may have indirect growth inducing impacts outside of Orange County. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible additional mitigation measures or alternatives identified in the SEIR. The City of Huntington Beach is adopting the Statement of Overriding Considerations set forth in Section 7.0 of this Statement of Findings and Facts to address the indirect growth inducing impacts of the project outside of Orange County.

Facts in Support of Finding

As noted in Section 3.0-N. of these Findings, the SEIR concluded that the project would not have the potential to result in growth-inducement within the project service area (Orange County). However, the replacement of imported water supplies with desalinated water supplies produced by the project could have the effect of making the imported water supplies that are displaced by the desalinated water supplies available for use outside of Orange County. Determination of the specific potential indirect growth-inducing effects outside of Orange County would require speculation that is beyond the scope of the environmental analysis for the Project.

In addition, for significant effects related to indirect growth outside of the boundaries of Orange County that may occur remain unmitigated.

6.0 FINDINGS REGARDING PROJECT ALTERNATIVES

In conformance with CEQA Guidelines Section 15126.6, the SEIR included a comparative impact assessment of "alternatives to the proposed project." The primary purpose for this section is to provide decision makers and the public with a "reasonable range" of project alternatives that could feasibly attain most of the basic project objectives, while avoiding or substantially lessening any of the project's significant adverse environmental effects. Important considerations for this alternatives analysis include the following (as noted in Section 15126.6):

- An EIR need not consider every conceivable alternative to a project
- An EIR should identify "alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process..."
- Reasons for rejecting an alternative include the following:
    - Failure to meet most of the basic project objectives
    - Infeasibility
    - Inability to avoid significant environmental effects.

Other than individual and cumulative short-term air quality emissions associated with construction activities and the possibility of indirect growth inducement outside of Orange County, the Subsequent Environmental Impact Report (SEIR) has not identified any other "unavoidable" significant impacts of the project, as all other potentially significant impacts can be mitigated to less-than-significant levels. However, certain cumulative impacts, to which the project would contribute, may be slightly reduced with some of the alternatives. Project-related cumulative impacts include air quality and noise, although the project's contribution is not "cumulatively considerable" as defined in CEQA Guidelines Section15126.6. As noted in Section 3.5, Project Need and Objectives, the proposed project's basic objectives are to:

- Provide a reliable local source of potable water to Orange County that is sustainable independent of climatic conditions and the availability of imported water supplies or local groundwater supplies
- Provide product water that meets all the potable (drinking water) requirements of the Safe Drinking Water Act (SDWA) and the Department of Public Health (DPH)
- Reduce salt imbalance of current imported water supplies by providing a potable water source with lower salt loads for blending with existing supplies
- Remediate the subject site of onsite contaminants resulting from approximately 35 years of use as a fuel oil storage facility in order to protect the health and safety of those in the surrounding community

- Create ecosystem and biologic resources benefits that may accrue due to decreased pressures on existing water resources and reduced contamination within receiving waters

- Minimize demands on the existing imported water system.

The following alternatives to the proposed project are discussed: the "No Project" alternative, "Alternative Site" alternative, "Alternative Ownership and Operation" alternative, "Alternative Intake and Discharge Designs" alternative, "Alternative Facility Configuration" alternative, "Reduced Facility Size" alternative, and the "Environmentally Superior" alternative. A comparison of issues with implementation of identified alternatives is provided in Table 6-1 of the SEIR, Comparison of Alternatives, (page 6-2).

The No Project Alternative
None of the impacts associated with the proposed development and construction activities would occur if the "No Project" alternative were selected. Implementation of this alternative would leave the existing portion of the fuel oil storage facility in place, and would avoid any adverse physical or environmental impacts associated with the proposed project. Existing geologic, soils, and aesthetic conditions in the area would remain the same. Air quality, noise, and traffic impacts due to construction of the desalination facility, pipeline, and pump stations would not occur with the "No Project" alternative.

Water planning professionals have forecasted that water demands would increase in the Southern California area, and have specifically identified resource targets to help meet projected demands, including local seawater desalination facilities. (See Section 3.5 of the SEIR, Project Need and Objectives, for a discussion of regional and statewide water planning.) Consequently, adoption of the "No Project" alternative would result in shifting the obligation for meeting a portion (up to 56,000 acre-feet per year [afy]) of future water demands from the project to: (1) increased conservation efforts (efficiency improvements and reduced consumption); (2) increased use of imported water supplies; (3) increased use of groundwater supplies; (4) construction of additional local water supply projects; and/or (5) construction of seawater desalination projects elsewhere in Orange County. Therefore, in some instances, the environmental impacts associated with the "No Project" alternative may be greater than those associated with the project.

While the "No Project" alternative, including the four alternative water supply components evaluated, may provide a reliable supply of water to Orange County, it does not provide a "local source" that is sustainable and independent of climactic conditions (in other words, "drought proof"), or sustainable and independent of the availability of imported water supplies or local groundwater supplies. In addition, the "No Project" alternative will not meet the project objectives of reducing the salt imbalance of current imported water supplies or of minimizing demands on the imported water system. Finally, the "No Project" alternative will not remediate the project site.

The "No Project" alternative is not presently being considered because it fails to meet most of the basic project objectives. In addition, the existing project site degrades the aesthetic character of the vicinity and, if not remediated as proposed, may pose a significant health risk due to petroleum hydrocarbon contamination. Furthermore, the "No Project" alternative would not realize the project benefit of providing a "drought-proof," high-quality, new potable water supply.

Alternative Site Alternative: Alternative Locations within a 2-Mile Radius of the HBGS

A preliminary investigation of available land (5 acres or larger) within a 2-mile radius of the HBGS was preformed. Several site were identified and shown in Appendix Z, including parks, school sites and other open areas. Of the available open-area parks and schools, only 3 parks consisted of more than 5 acres. However, each of these parks are actively used for recreation by the local community. The other open areas within 2-miles of the HBGS included wetlands, the Ascon/Nesi site, and several other sites currently reserved by the owners for future development. None of these areas were found to be feasible for implementation of the proposed desalination facility.

Alternative Site Alternative: Alternative Locations Outside the City of Huntington Beach
Several other locations outside of the City of Huntington Beach have been considered for this project, including the mouth of San Juan Creek (within the City of Dana Point), San Onofre (within San Diego County), and along the coast of the City of San Clemente (refer to Figure 6-1, Alternative Site Location Map*,* and Table 6-2, Alternative Site Comparison in the SEIR*)*. These alternatives are not being considered for a variety of reasons, such as the 56,000 afy size of the proposed project (San Juan Creek), environmental concerns of a new ocean intake/discharge system (San Clemente), and/or engineering/acquisition issues (San Onofre).

The San Juan Creek and San Clemente sites would have greater impacts due to sensitive surrounding uses and the need to create a new ocean intake/outfall. Implementation of the "Alternative Site" alternative would not avoid the project's identified unavoidable construction related air quality impact, and may result in significant aesthetic and/or marine biological impacts. This alternative is not presently under consideration.

Alternative Ownership and Operation Alternative
The Alternative Ownership and Operation alternative would not change any of the design or operational features of the project. Rather this alternative consists of the exact same project owned and operated by a public (not private) entity. Consequently, this alternative and the project as proposed would result in the same potential impacts on the environment.

Alternative Intake and Discharge Designs Alternative
Alternative Intake: The following discussion relates to alternative methods for ocean water intake systems. The most common subsurface type intake systems, beach wells and seabed filtration systems, could be considered as alternative intake systems for the Seawater Desalination Project at Huntington Beach. These subsurface intake facilities have one key advantage over the project: the source water they collect is pretreated via filtration through the subsurface sand/seabed formations in the area of source water extraction.

There are three types of beach wells typically utilized for the intake of seawater: (1) vertical intake wells, (2) slant intake wells, and (3) horizontal intake wells (also referred to as Ranney wells). A description of each is provided herein, followed by a summary of feasibility and potential environmental effects of such well systems.

Vertical intake wells consist of water collection systems that are drilled vertically into a coastal aquifer. These wells consist of a non-metallic casting (typically, fiberglass reinforced pipe), well screens, and a stainless steel submersible or vertical turbine pump (see Figure 6-2, Vertical Beach Well). The well casting diameter is between 6 and 24 inches, and well depth does not usually exceed 250 feet. The vertical intake wells are usually less costly than the horizontal wells and the slant wells but their yield is relatively small. As described in Appendix AA, Evaluation of Alternative Desalination Plant Intake Technologies, a unit well yield of 1,560 gallons per minute (gpm) (2.2 million gallons per day (MGD)) would be expected from a properly constructed, large-diameter vertical production well for the site-specific conditions of the coastal

aquifer near the Huntington Beach desalination facility site. In order to deliver 152 MGD of source seawater for the project, 69 duty and 17 standby wells of a 2.2 MGD intake capacity each would have to be operational. A total of 86 vertical intake wells would be constructed under this alternative. This would result in the need to impact 2.4 miles of coastline to collect and transport the source water to the proposed desalination facility through the use of the vertical intake system.

Slant wells are subsurface intake wells drilled at an angle and extending under the ocean floor to maximize the collection of seawater and the beneficial effect of the natural filtration of the collected water through the ocean floor sediments. The collection of 152 MGD of seawater needed for this project would require the use of 35 slant intake wells with a capacity of 3,000 gpm (4.3 MGD) each. These slant wells would be grouped in clusters of three. The distance between the well clusters would be 700 to 1,000 feet. The total length of beach occupied by slant wells would be approximately 4.6 miles. Operation of the slant wells at a total capacity of 100 MGD or more would cause the water level in the vicinity of the wells to drop from 5 to 60 feet below ground surface and the water table in 4,000- foot-wide zone located parallel to the shore and perpendicular to the well field line. Slant wells are similar in cost to the horizontal intake wells discussed below.

Horizontal (Ranney) intake wells consist of a caisson that extends below the ground surface with water well collector screens (laterals) projected out horizontally from inside the caisson into the surrounding aquifer. The caisson is constructed of reinforced concrete that may be between 10 and 30 feet inside diameter with a wall thickness from approximately 1.5 to 3.0 feet. Since the laterals in the Ranney wells are placed horizontally, a higher rate of source water collection is possible than with vertical wells. This allows the same intake water quantity to be collected with fewer wells. Individual Ranney wells are typically designed to collect between 0.5 to 5.0 MGD of source water. Based on the Evaluation of Alternative Desalination Plant Subsurface Intake Technologies by Water Globe Consulting, the comparative analysis utilized wells with a capacity of 5 MGD. These larger capacity intake wells require the use of vertical turbine pumps, which motors cannot be submersed in water, therefore these vertical turbine pumps must be housed above the high tide line. In addition, the size and servicing of the well pumps, piping, electrical, instrumentation, and other auxiliary equipment of large-capacity wells require that the location of the pump house be a minimum of 10 feet above beach grade. The caisson depth varies according to site-specific geologic conditions, ranging from approximately 30 feet to over 150 feet. The number, length, and location of the horizontal laterals are determined based on a detailed hydrogeologic investigation. Typically, the diameter of the laterals ranges from 8 to 12 inches and their length extends up to 200 feet. The size of the lateral screens is selected to accommodate the grain-size of the underground soil formation. If necessary, an artificial gravel-pack filter is installed around the screen to suit finer-grained deposits.

In large intake applications, such as that shown on Figure 6-4, Horizontal (Ranney) Beach Well Photo, the horizontal beach wells are typically coupled with the intake pump station installed above the well caisson. Figure 6-4 shows one of the three 3.8 MGD horizontal (Ranney) intake beach wells (two active intake wells/pumps and one standby well/pump) for the largest existing seawater desalination facility located on the Pacific Ocean coast in North America—the 3.8 MGD water supply facility for the Pemex Salina Cruz refinery in Mexico.

The Ranney wells could collect more water per well and deliver the total flow of 152 MGD needed for operation of 50 MGD seawater desalination facility. Even if ideal hydro-geotechnical conditions for this type of wells are assumed to exist (i.e., each well could collect 5 MGD of source water), horizontal well intake construction would include the installation of a total of 38 wells. The total length of coastal seashore impacted by this type of well intake would be 2.8

miles (Appendix AA). For 38 Ranney wells with an individual capacity of 5 MGD each, and a minimum distance between the individual wells of 400 feet, the footprint would be 15,200 feet long (400 feet x 38 wells = 15,200 feet (approx. 2.8 miles)). Figure 6-5, Horizontal (Ranney) Beach Well System Illustration, shows the approximate size and configuration of a horizontal intake well system for a 10 MGD seawater desalination facility with five intake wells. Figure 6-6, Conceptual Horizontal (Ranney) Well Intake Configuration at Huntington Beach, gives a general representation of the shoreline area in front of HBGS that would be impacted by the construction of a Ranney well intake system.

Any one of the site-specific conditions would render subsurface intakes more impactful to the environment than the project because it would result in either irreversible damage to the Talbert Marsh, Brookhurst Marsh, and the Magnolia Marsh and negate years of restoration measures, result in a number of negative environmental impacts and human health risks, including the following: (1) detrimental environmental impact of intake well operations on the adjacent Talbert Marsh, Brookhurst Marsh, and the Magnolia Marsh due to dewatering; (2) poor water quality of the Talbert Aquifer in terms of ammonia, bacterial contamination and lack of oxygen; (3) interception of contaminated groundwater from nearby Ascon Landfill, which may introduce carcinogenic Hydrocarbons in the Source water supply of the desalination facility; (4) possible interception of injection water from Talbert Barrier by the intake which may impair the function of this barrier to protect against seawater intrusion; (5) subsidence of public roads and structures due to drawdown of the groundwater table; and (6) impairment if the aesthetic value of the coastal shore by the obtrusive aboveground intake structures.

None of these potential environmental impacts are associated with the use of the cooling water system from the existing HBGS as source water for the project. The proposed intake system would not physically alter the HBGS intake or discharge system, and it would provide a more than adequate supply of source water and dilution water. None of the proposed alternative intake systems would be an acceptable substitute to the proposed use of the existing HBGS cooling water system as the supplier of source water for the Seawater Desalination Project at Huntington Beach.

Alternative discharge: The only existing ocean discharge facility (besides the HBGS outfall) in the project site vicinity is the 120-inch, 4.5-mile ocean outfall utilized at the OCSD regional wastewater treatment facility (located approximately 1.5 miles southeast of the proposed project site). The City inquired with OCSD regarding the feasibility of discharging the proposed desalination project's concentrated seawater discharge (50 MGD) through the OCSD's outfall. In a response letter dated June 24, 2004, OCSD indicated that, based on hydraulic discharge capacity performed for the OCSD's 1999 Strategic Plan, capacity within the OCSD outfall is not available for the proposed desalination project. Analysis of future wastewater projections shows that the capacity of the 120-inch outfall is anticipated to be exceeded once every 3 years by the year 2020, requiring the use of the District's emergency 1-mile ocean outfall (Herberg, pers. comm. 2004). As such, the use of the OCSD outfall for concentrated seawater discharge is not considered a feasible alternative to the proposed project.

All hydrodynamic analysis performed for the SEIR is based on the proposed project utilizing the existing HBGS outfall infrastructure. The analysis determines the dilution and dispersion of the concentrated seawater that would be added to the discharge stream by the proposed desalination facility, which is discussed throughout this document as the proposed project. Yet, another outfall alternative would be to install a diffuser on the existing discharge tower.

The existing discharge tower produces a discharge point about mid-depth in the water column, making the retrofit of a conventional diffuser with lateral discharge arms infeasible from a

structural strength and support perspective. Given these structural limitations of the existing infrastructure, it appears that the only viable diffuser concept is a velocity cap retrofitted to the discharge tower, identical to the one that already exists on the intake tower. A velocity cap would provide four lateral diffuser ports with rectangular cross section, producing four horizontal discharge jets. The jets would likely need to be oriented in the cross-shore and along shore directions, parallel to the walls of the discharge tower. With the velocity cap added, the discharge cross-sectional area is reduced from its present 346.5 to 225 square feet. Consequently, discharge velocities will increase from 0.34 feet/second directed vertically upward for low-flow and stand-alone operations without a velocity cap, to 0.53 feet/seccond directed horizontally with a velocity cap. For flow augmented stand-alone operations utilizing 152 MGD of source water intake flow rate, discharge velocities will increase from 0.46 feet/second for low-flow without a velocity cap, to 0.70 feet/second with a velocity cap.

As further described in Appendix AC, Supplemental Report on the Effects of a Retrofitted Diffuser on the Discharge Outfall for the Ocean Desalination Project at Huntington Beach, CA, the velocity cap diffuser would cause faster dilution of the sea salts beyond 600 feet from the outfall (far-field), but would result in higher salinities on the seafloor within 600 feet from the outfall (near-field). The velocity cap diffuser eliminates the concentrated seawater surface boil and increases the dilution factor at the shoreline from 32 to 1 to 38 to 1. However, these favorable far-field and inshore effects produced by the diffuser are offset by increased benthic impacts near the outfall. The velocity-cap diffuser limits the dilution volume to only the lower half of the water column near the outfall where salinity is highest. Without the velocity cap the concentrated seawater discharge takes a vertical trajectory toward the sea surface, forming a surface boil, before subsiding back to the seafloor, passing through the full depth of the water column in the immediate neighborhood of the outfall, and thereby increasing the near-field dilution. Therefore, the diffuser would increase the seabed salinity at the base of the outfall under both the co-located and stand-alone conditions. Because the discharge diffuser produces mixed results in terms of salinity dispersion, and because the project would not result in significant impacts related to elevated salinity (see Section 4.10 of the SEIR), the diffuser discharge alternative does not provide substantial benefits in terms of impact avoidance or reduction, and is therefore not being further considered.

Alternative Facility Configuration Alternative

As discussed in Chapter 3.1 of the SEIR, since the 2005 REIR was certified and the project approved, certain circumstances surrounding the project have changed and new information that was not known and could not have been known at the time that the 2005 REIR was certified, has become available. The site plan that the 2005 REIR was based on has been modified at the request of AES to consolidate the construction activities as close together as possible by shifting the RO building and associated facilities to the north. The revised site plan (that is addressed as the proposed project in this SEIR) would allow AES to utilize their property to the fullest extent possible. As a result of the new site plan for the proposed project, and because the project has been considered and approved by the City of Huntington Beach, the 2005 site plan has been added as the Alterative Facility Configuration to the proposed project. The operation of the proposed desalination facility would generally remain the same.

As shown in Figure 6-10, Alternative Facility Configuration, in the SEIR this site plan would result in the construction of the RO building, electrical room, chemical storage area, administration building, and pretreatment filters would be constructed where the existing fuel oil storage tank #3 is located and would include the area south of this tank as well (the area formerly referred to as the southeast fuel oil storage tank). The location of the product water storage tanks would be located in the northwestern corner of the project site consistent with the proposed project in this SEIR. All of the building dimensions and equipment specifications would

be the same as proposed with the project in this document, but would be rearranged to fit generally within the site boundaries identified in the 2005 REIR.

Impacts associated with the alternative facility configuration would generally be similar to those identified for the proposed project, and mitigation measures identified for the proposed project would also be applicable to the alternative. The alternative facility configuration would provide a less-consolidated site design and reduce AES' ability to utilize their property to the fullest extent possible. Therefore, this alternative is not being further considered..

Reduced Facility Size Alternative
The proposed desalination project is currently designed to incorporate RO technology to remove impurities from seawater to produce approximately 50 MGD (56,000 afy) of potable water for distribution to local water agencies. One alternative to the proposed project would be to reduce the output of project water to approximately 25 MGD. The design and operation of the proposed desalination facility would generally remain the same. However, this alternative would reduce the size of the facility, the amount of seawater required to produce water, and the amount of concentrated seawater discharged back into the HBGS outfall.

The 25 MGD alternative would not significantly reduce potential environmental impacts when compared to the proposed project. In addition, this alternative would result in a substantial decrease in the amount of desalinated water that could be produced, and thus a substantial increase in the cost of the desalinated water. Consequently, the 25 MGD alternative would not achieve the project objectives to provide a sufficient amount of water that would meet the future water needs projected by Orange County water purveyors, and would reduce overall water supply reliability that is sustainable and independent of climatic conditions. A discussion of potential impacts is discussed in the SEIR.

While the Reduced Facility Size alternative may result in reduced impacts in comparison to the proposed project, the 25 MGD alternative would result in providing water at a cost that would not be acceptable to Orange County water purveyors, and would not produce a sufficient amount of desalinated water to meet projected future demand. Implementation of the 25 MGD alternative would not avoid the project's identified unavoidable construction related air quality impact, and would reduce the water quality benefits of the project as proposed. As such, this alternative is not being further considered..

Environmentally Superior Alternative
The SEIR determined that none of the above alternatives are considered "environmentally superior" to the proposed project, except for the "No Project" alternative. In this case, the California Environmental Quality Act (CEQA) requires identification of an "environmentally superior" alternative from among the other alternatives. Implementation of the project on an alternative site, while dependent on site-specific variables, is not anticipated to significantly reduce impacts, as alternative site implementation is expected to result in overall similar environmental impacts. The "Alternative Ownership and Operation" alternative would result in exactly the same environmental impacts as the proposed project. A hypothetical reduction in facility size can be argued to be "environmentally superior", based superficially on the reduction in facility size and corresponding reduction in traffic, air and noise impacts. However, reducing facility size and output would not substantially reduce any significant impacts. Other design options for intake and discharge either do not provide substantial environmental benefits, or result in greater environmental impacts overall. Consequently, and in accordance with the mandate of CEQA, the "Reduced Facility Size" alternative is selected as the environmentally superior alternative in comparison to the proposed project.

7.0 STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to Section 15093 of the State CEQA Guidelines, decision-makers are required to balance the benefits of a project against its unavoidable environmental risks in determining whether to approve a project. In the event the benefits of a project outweigh the unavoidable adverse effects, the adverse environmental effects may be considered "acceptable". The State CEQA Guidelines require that, when a public agency allows for the occurrence of significant effects that are identified within the SEIR but are not at least substantially mitigated, the agency shall set forth in writing the specific reasons the action was supported.
To the extent the significant effects of a project are not avoided or substantially lessened to a level of insignificance, the City of Huntington Beach, having reviewed and considered the information contained within the Subsequent Environmental Impact Report for the project, and having reviewed and considered the information contained within the public record, and having balanced the benefits of the project against the unavoidable effects which remain, finds such unmitigated effects to be acceptable in consideration of the following overriding considerations discussion.

The City finds that all feasible mitigation measures have been imposed to lessen project impacts to a less than significant level where feasible, and furthermore, that alternatives to the project are either infeasible because they have greater environmental impacts, do not provide the necessary benefits of the project, do not eliminate the project's unavoidable significant air quality impact, or are otherwise socially or economically infeasible.

The environmental analysis undertaken for the Seawater Desalination Project at Huntington Beach indicates that, while mitigation measures would be effective in reducing the level of certain short-term air quality impacts, the project may still result in significant adverse direct and cumulative impacts to short-term air quality. It should be noted that the project's unavoidable adverse impacts would occur under current General Plan designations. In addition, a potential indirect growth inducing impacts of the project outside of Orange County may occur. Determination of the specific potential indirect growth inducing effects outside of Orange County would require speculation that is beyond the scope of the environmental analysis of this project.
The City of Huntington Beach, as lead agency and decision-maker for the project, has reviewed and considered the information contained in the SEIR prepared for the Seawater Desalination Project at Huntington Beach and the public record. The City finds that the benefits of the Project include the following:

- The Seawater Desalination Project at Huntington Beach will provide a reliable source of potable water to Orange County that is sustainable independent of climatic conditions and the availability of imported water supplies and local groundwater supplies. The project offers Orange County's water agencies up to 50 million gallons per day (MGD) or 56,000 acre-feet of water per year to include in their portfolio of available water resources. Water conservation efforts have resulted in successfully stretching the developed water supply, and more gains from conservation are projected for the future. Still, the California Department of Water Resources predicts that the South Coast Region (and the entire State) will face continued water shortages. The water produced by the project is an important drought-proof, renewable supply that will enhance the overall portfolio of water resources available to Orange County water agencies.

- ❖The Seawater Desalination Project at Huntington Beach will provide product water that meets the requirements of the Safe Drinking Water Act (SDWA) and the California Department of Public Health (CPDH).
- ❖The Seawater Desalination Project at Huntington Beach will reduce the salt imbalance of current imported water supplies by providing a potable water source with lower salt loads for blending with existing supplies.
- ❖The Seawater Desalination Project at Huntington Beach will remediate the subject site of on site contaminants resulting from approximately 35 years of use as a fuel oil storage facility thereby protecting the health and safety of those in the surrounding community.
- ❖The Seawater Desalination Project at Huntington Beach will create ecosystem and biological resources benefits that may accrue due to decreased pressures on existing water sources. The project could provide operational flexibility for the management of the Orange County Groundwater Basin. The project will also replace imported supplies transported from Northern California.
- ❖The Seawater Desalination Project at Huntington Beach will reduce demands on the existing imported water system. Southern California could not exist without its extensive imported water supply system. The Metropolitan Water District of Southern California ("MWD"), together with many local water agencies, operates numerous water facilities to transport, store and recycle water supplies to meet the needs of Orange County and the surrounding Southern California region. Given the announced cutbacks of water supply and the continuing environmental water demands on the State Water Project in Northern California, the water produced by the Seawater Desalination Project at Huntington Beach will be dedicated by Orange County water agencies to replacing existing water supplies for current Orange County residents and future generations.
- ❖The Huntington Beach Desalination Project will result in an equal demand reduction on both the Municipal Water District of Orange County (MWDOC) and Metropolitan Water District of Southern California's (MWD) imported water supplies. This will allow MWD, on a long-term average basis, to reduce its need for expanded transfers and exchanges. Likewise, MWDOC will reduce its need for marginal supplies including transfers, due to the production of 56,000 acre feet of locally supplies annually by the Huntington Beach project.
- ❖The Seawater Desalination Facility will include a voluntary Energy Minimization and Greenhouse Gas Reduction Plan that incorporates the offset of imported water and results in a net carbon neutral water facility.
- ❖ The Seawater Desalination Project at Huntington Beach will provide monitoring of the Pacific Ocean water in the vicinity of the HBGS intake pipeline located offshore from Huntington Beach.
- ❖ The Seawater Desalination Project at Huntington Beach will serve high quality desalinated water through portions of the City distribution system and assist in drought proofing the City'swater supply.

- ❖ The Seawater Desalination Project at Huntington Beach will provide the City with the direct acquisition of 3 MGD of locally controlled, high quality, drought-proof drinking water at a discounted rate of the cost of imported water.

- ❖ The Seawater Desalination Project at Huntington Beach will provide the City with an option to obtain an additional 4 MGD of water during a water supply emergency.

- ❖ The Seawater Desalination Project at Huntington Beach will improve the aesthetics of the area through the demolition of three unused 40-foot high fuel storage tanks and replacing them with lower profile, modern, and more attractive structures.

- ❖ The Seawater Desalination Project at Huntington Beach will install perimeter improvements including a 10 foot (Edison) to 20 foot (Newland) landscape planter and an eight foot high wall along the project's street frontage for an overall cohesive appearance with the HBGS facility along Newland Street.

- ❖ The Seawater Desalination Project at Huntington Beach will improve the circulation in the area through the dedication and improvement of additional right-of-way along Edison Avenue.

- ❖ The Seawater Desalination Project at Huntington Beach will provide a new source of long term annual property tax revenue for the city, especially the redevelopment zone located in the South East area of the City.

- ❖ The Seawater Desalination Project at Huntington Beach will provide a new source of long term annual revenue for the City from the Franchise Agreement.

- ❖ The Seawater Desalination Project at Huntington Beach will provide a new source of revenue from the lease/sale of currently unused property acquired by the City for a future water storage tank, while protecting the City's ownership interest in the tank site property.

- ❖ The Seawater Desalination Project at Huntington Beach will provide higher water pressure in a portion of City's distribution system, thereby allowing the City to realize a cost savings.

- ❖ Construction of Seawater Desalination Project and delivery system will allow the City to avoid tens of millions of dollars in water infrastructure capital costs and long-term maintenance and operating expenses

- ❖ The Seawater Desalination Project at Huntington Beach will provide these benefits at no cost to the taxpayers.

Based on this Statement of Findings of Facts and on all of the evidence presented, the City of Huntington Beach finds that the benefits of the Seawater Desalination Project at Huntington Beach (as described above) outweigh the adverse short-term air quality impacts associated with the construction of project and the possible indirect growth inducing impacts of the project outside of Orange County (as described in Section 5.0 of this Statement of Findings of Facts).